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This report presents the results of the statewide Spring 2005 administration of the Colorado Student Assessment Program (CSAP). In Spring 2005, students were assessed in Reading in grades 3 through 10; Writing in grades 3 through 10; Mathematics in grades 3 through 10; and Science in grade 8. Spanish versions of Reading and Writing were also administered in grades 3 and 4. The assessments were developed by CTB/McGraw-Hill in collaboration with the Colorado Department of Education and were scored and scaled by CTB/McGraw-Hill.

Part 1: Overview of the CSAP Assessments

The CSAP assessments are developed to measure the Colorado "content standards," which are listed below. Note that the terms "content standard" and "standard" are used synonymously throughout the text. Beginning in 2001, some reporting categories were added at the request of the Colorado Department of Education to provide additional diagnostic information; these reporting categories are called "sub-content areas" and are listed below as well. Each sub-content area may cover several content standards. Most, but not all, of the items in CSAP are assigned to a sub-content area, whereas all items in CSAP are assigned to one, and only one, content standard. The various content standards and sub-content areas are listed below for each content area. Table 1 gives an overview of which content standards and sub-content areas are assessed in each of the grades.

Reading and Writing:

The Colorado Model Content Standards

1. Reading Comprehension – Students read and understand a variety of materials. (Reading)

2. Write for a Variety of Purposes – Students write and speak for a variety of purposes and audiences. (Writing)

3. Write Using Conventions – Students write and speak using conventional grammar, usage, sentence structure, punctuation, capitalization, and spelling. (Writing)

4. Thinking Skills – Students apply thinking skills to their reading, writing, speaking, listening, and viewing. (Reading)

5. Use of Literary Information – Students read to locate, select, and make use of relevant information from a variety of media, reference, and technology source materials. (Reading)

6. Literature – Students read and recognize literature as a record of human experience. (Reading)

The Colorado Model Sub-Content Areas

1. Fiction – Students read, predict, summarize, comprehend, and analyze fictional texts; determine the main idea and locate relevant information; and respond to literature that represents different points of view. (Reading)

2. Nonfiction – Students read, predict, summarize, comprehend, and analyze a variety of nonfiction texts including newspaper articles, biographies and technical writings; locate the main idea and select relevant information; and determine the sequence of steps in technical writings. (Reading)

3. Vocabulary – Students use word recognition skills and resources such as phonics, context clues, word origins, and word order clues; root prefixes and suffixes of words. (Reading)

4. Poetry – Students read, predict, summarize and comprehend poetry; determine the main idea, make inferences, and draw conclusions; and respond to poetry that represents different points of view. (Reading)

5. Paragraph Writing – Students write and edit in a single session. (Writing)

6. Extended Writing – Students plan, organize and revise writing for an extended essay. (Writing)

7. Grammar and Usage – Students know and use correct grammar in writing including parts of speech, pronouns, conventions, modifiers, sentence structure and agreement. (Writing)

8. Mechanics – Students know and use conventions correctly including spelling, capitalization, and punctuation. (Writing)

Mathematics

The Colorado Model Content Standards

1. Number Sense – Students develop number sense, use numbers and number relationships in problem-solving situations, and communicate the reasoning used in solving these problems.

2. Algebra, Patterns, and Functions – Students use algebraic methods to explore, model, and describe patterns and functions involving numbers,

shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.

3. Data Analysis, Probability, and Statistics – Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving these problems.

4. Geometric Concepts – Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.

5. Measurement – Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.

6. Operation and Calculation – Students link concepts and procedures as they develop and use computational techniques including estimation, mental arithmetic, paper-and-pencil, calculators, and computers in problem-solving situations, and communicate the reasoning used in solving these problems.

The Colorado Model Sub-Content Areas

1. Number and Operation Sense –

   - Students demonstrate meanings for whole numbers, commonly-used fractions, decimals, and the four basic arithmetic operations through the use of drawings, decomposing and composing numbers, and identify factors, multiples, and prime/composite numbers. (SA 1, grades 4 & 5)

   - Students demonstrate an understanding of relationships among benchmark fractions, decimals, and percents and justify the reasoning used. Students add and subtract fractions and decimals in problem solving solutions. (SA 1, grade 6)

2. Number Sense – Students demonstrate understanding of the concept of equivalency as related to fractions, decimals, and percents. (SA 1, grade 7)

3. Linear Pattern Representation – Students represent, describe, and analyze linear patterns using tables, graphs, verbal rules, and standard algebraic notation and solve simple linear equations in problem-solving situations using a variety of methods. (SA 1, grade 8)

4. Multiple Representations of Linear/Nonlinear Functions – Students represent linear and nonlinear functional relationships modeling real world phenomena using written explanations, tables, equations, and graphs, describe the connections among these representations and convert from one representation to another. (SA 1, grade 9)

5. Multiple Representations of Functions – Students represent functional relationships that model real world phenomena using written explanations, tables, equations, and graphs, describe the connections among these representations and convert from one representation to another. (SA 1, grade 10)

6. Patterns –
   - Students reproduce, extend, create and describe geometric and numeric patterns as problem-solving tools. (SA 2, grade 4)
   - Students represent, describe, and analyze geometric and numeric patterns using tables, graphs and verbal rules as problem-solving tools. (SA 2, grade 5)
   - Students represent, describe, and analyze geometric and numeric patterns using tables, words, concrete objects, and pictures in problem-solving situations. (SA 2, grade 6)

7. Area and Perimeter Relationships – Students demonstrate an understanding of perimeter, circumference, and area and recognize the relationships between them. (SA 2, grade 7)

8. Proportional Thinking –
   - Students apply the concepts of ratio, proportion, scale factor, and similarity including using the relationships among fractions, decimals, and percents in problem-solving situations. (SA 2, grade 8)
   - Students apply the concepts of ratio and proportion in problem-solving situations. (SA 2, grade 9)

9. Probability and Counting Techniques – Students apply organized counting techniques to determine a sample space and the theoretical probability of an identified event which includes differentiating between independent and dependent events and using area models to determine probability. (SA 2, grade 10)

10. Data Display – Students organize, construct, and interpret displays of data including tables, charts, pictographs, line plots, bar graphs, and line graphs and choose the correct graph from possible graph representations of a given scenario. (SA 3, grade 5)

11. Measurement – Students demonstrate a knowledge of time, and understand the structure and use of US customary and metric measurement tools and units. (SA 3, grade 4)

12. Geometry
    - Students will reason informally about the properties of two-dimensional figures and solve problems involving area and perimeter. (SA 3, grade 6)
    - Students describe, analyze, and reason informally about the properties of two and three-dimensional figures to solve problems. (SA 3, grade 8)

Science

The Colorado Model Content Standards

1. Scientific Investigation – Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.

2. Physical Science – Students know and understand common properties, forms, and changes in matter and energy.

3. Life Science – Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.

4. Earth and Space Science – Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.

5. Science – Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

6. Technology – Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.

The Colorado Model Sub-Content Areas

1. Experimental Design and Investigations – Students understand and apply scientific questions, hypotheses, variables, and experimental design.

2. Results and Data Analysis – Students organize, analyze, interpret, and predict from scientific data to communicate the results of investigations.

3. Physics – Students understand physical forces, the motion of objects, and energy transfer or energy transformation.

4. Chemistry – Students understand the properties, composition, structure, and changes of matter.

5. Earth Science – Students know and understand the composition of the earth, its history, and the processes that shape it.

Test Development and Content Validity

In order to assure the content validity of the CSAP assessments, the Colorado Model Content Standards and Assessment Frameworks were studied by CTB's Content Developers. To develop the 2005 Colorado Student Assessment Program, Colorado content area specialists, teachers, and assessment experts worked with CTB/McGraw-Hill to develop a pool of items that measured Colorado's Assessment Frameworks in each grade and content area. Several sources contributed to the 2005 CSAP items. CTB/McGraw-Hill's extensive pool of previously field-tested reading passages, writing prompts, mathematics and science items provided the initial source. Many of these existing items were revised in order to ensure better measurement of the relevant Colorado standard and benchmark. Additional items were developed by CTB and the staff at the Colorado Department of Education as needed to complete the alignment of CSAP to the Assessment Frameworks. These items were carefully reviewed and discussed by Content Review, Bias Review, Community Sensitivity Review, and Instructional Impact committees to assure not only content validity, but also the quality and appropriateness of the items. These committees represented Colorado's diverse population and were composed of Colorado teachers, community members, and State Department of Education staff. The committees' recommendations were used to select and/or modify items from the item pool to construct the final reading, writing, mathematics, and science assessments.

Each new form also included a subset of items used in the previous administrations of the CSAP assessments. These repeated items were used to equate the forms across years. Equating is necessary to account for slight year-to-year differences in test difficulty and to maintain comparability across years. Details of the equating are provided later in this document. The assessments that were reported on vertical scales (Reading, Writing, and Mathematics) also had items in common between adjacent grades.

Test Configuration

Tables 2 through 6 provide information regarding the configuration of the CSAP assessments. Table 2 provides the number of multiple-choice (MC) and constructed-response (CR) items on each test, as well as the number of obtainable points on each CR item. Tables 3 through 6 provide the number of MC and CR items by content standard (CS) and sub-content area (SA). Note that the sub-content areas Fiction (SA 1) and Poetry (SA 4) are combined for grades 3 through 6 Reading. The following content standards are also combined: Algebra, Patterns, & Functions (CS 2) and Statistics & Probability (CS 3), in Mathematics grade 3; Number Sense (CS 1) and Computational Techniques (CS 6) in Mathematics, grades 7 through 10; Geometry (CS 4) and Measurement (CS 5) in Mathematics, grades 5 through 10; and Science (CS 5) and Technology (CS 6) in Science grade 8.

Every item is associated with a content standard but not all items are associated with a sub-content area, so the sum of the sub-content area points may be less than the total number of points for the test.

Across all grades and content areas, four items (all multiple choice) were removed because of poor statistical performance:

- Writing, Grade 7 – Item 86
- Writing, Grade 8 – Item 49
- Mathematics, Grade 9 – Item 57
- Science, Grade 8 – Item 58

Table 2 indicates the number of items and score points for each test form without the removed items. The numbers in parentheses denote instances in which Writing items are found in Reading test sessions (labeled Reading/Writing). These values should be used for total score purposes.

Part 2: Scaling and Scoring Procedures

Scale Scores for the Total Test and by Content Standard and Sub-Content Area

Students' total scale scores are based on their performance on all the scored items on the test. The range of possible scores varies by grade and content area. The highest obtainable scale score (HOSS) and lowest obtainable scale score (LOSS) for each grade and content area is provided in Table 7. Students also receive a score for each content standard (and for each sub-content area) that is based only on the items that contribute to the given content standard (or sub-content area). Note that every item on the test corresponds to

some content standard but not all items contribute to a sub-content area. The scale scores for the content standards and the sub-content areas are calculated using the item parameters that are obtained when the *total* test is calibrated (see Part 5, Scaling and Calibration). For each grade and content area, the minimum and maximum possible scale scores for content standards and sub-content areas are set at the same LOSS and HOSS as the total scale score.
Students were scored at the total test, content standard, and sub-content area levels using item response theory pattern scoring procedures. This procedure produces maximum-likelihood trait estimates (scale scores) based on students' item response patterns, as described by Lord (1974; 1980, pp. 179-181). Item-pattern scoring takes more information into account and is more accurate than number-correct scoring in which all students with the same number correct receive the same score, regardless of how that score is obtained. On average, the increase in accuracy is equivalent to approximately a 15-20% increase in test length (Yen, 1984; Yen & Candell, 1991). Note that score reliability tends to increase with the number of items, and thus the total score is more reliable than the content standard or sub-content area scores.

Vertical Scale Design for Reading, Writing and Mathematics

Horizontal equating within each grade was used to place the 2005 forms on the vertical scales that had been established previously for Reading, Writing, and Mathematics. The vertical scale for Reading, spanning grades 3 through 10, was established in 2001. The vertical scales for Writing, spanning grades 3 through 10, and for Mathematics, spanning grades 5 through 10, were established in 2002. The Stocking and Lord (1983) procedure was used to place each grade on the vertical scale that had been developed for each content area.

In 2005 two new assessments, Mathematics grades 3 & 4, were introduced and were linked to the existing vertical scale (Mathematics grades 5-10) sequentially. Grade 4 was linked to grade 5, and grade 3 was subsequently linked to grade 4.

Each 2005 CSAP test contained items from the previous administrations for the same grade. These repeated items were used as anchors in a Stocking and Lord (1983) equating procedure, which was used to place each test form on the previously established scale. By equating the 2005 tests within each grade, the unique metrics of the CSAP Reading, Writing, and Mathematics vertical scales were maintained.

These scaling and calibration methods are presented in Part 5 of this report.

Part 3: Results

Student results are reported statewide in terms of scale scores and performance levels. The scale score ranges for each grade and content area are listed in

Table 7. The performance level cut scores were adopted by the Colorado State Board of Education, based on the recommendations of standard setting committees composed of qualified Colorado educators, using a variation of the Bookmark standard setting procedure (Lewis, Mitzel, & Green, 1996). Detailed information about the cut scores and standard setting for the new assessments implemented in 2005 is available in the CSAP Bookmark Standard Setting Technical Report for Grades 3 & 4 Mathematics (2005). .

Summary Statistics

Summary statistics are based on the total Colorado student population tested by CSAP. Table 8 presents the mean, median, and standard deviation of the scale scores for the total population and each gender in each grade/content area. Note that the male and female students do not equal the total population because some students' tests did not identify gender.

Girls scored higher than boys at all grade levels on the Reading and Writing tests, while boys scored slightly higher than girls on the Science assessment. Boys scored three to four points higher than girls on the Mathematics tests in grades 3, 4 and 5 but both had equivalent scores at grades 7, 8 and 10. In the remaining grade spans males scored one point higher in grade 6 and females scored two points higher in grade 9.

Tables 9 and 10 contain scale score descriptive statistics for each content standard and sub-content area, respectively. Since the scale scores for content standards and sub-content areas are computed based on fewer items, students more easily get the highest obtainable score or the lowest obtainable score on these than on the total test, causing the scale score distributions to be skewed in some cases. For that reason, both means and medians are reported. Tables 11 and 12 contain number-correct descriptive statistics for the total population and the mean percent of the maximum points obtained, for each content standard and sub-content area, respectively.

Note that grade 3 Reading measures only one content standard; content standards 2 and 3 are combined for grade 3 Mathematics; content standards 1 and 6 are combined in grades 7 through 10 Mathematics; content standards 4 and 5 are combined in grades 3 through 10 Mathematics; and content standards 5 and 6 are combined for grade 8 Science. Similarly, sub-content areas 1 and 4 are combined for grades 3 through 6 Reading. In Tables 9-12, where a content standard or sub-content area is shared (e.g. CS 2/3 for grade 3 Mathematics) the scores are reported under the first CS or SA (e.g. CS 2 for grade 3 Mathematics).

Third Grade

Reading

The mean scale score for the total population of students taking the 2005 third-grade Reading assessment is 557 with a standard deviation of 77.6. The mean scale score for female students is 565 with a standard deviation of 72.6, and the mean scale score for male students is 550 with a standard deviation of 81.4. The scale score frequency distribution of the third-grade Reading assessment for the total population is shown in Table A-1[1]. Figure A-1 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the sub-content areas range from 559 to 592. Although most of the sub-content area scale scores are quite close to the total test score median of 562, the median score on sub-content area 3 is notably higher at 592.

The mean percents of the maximum obtainable raw score for the sub-content areas range from 61.5 to 69.3. The mean percent of the maximum obtainable score for the total test is 68.8.

Reading – Spanish Version

The mean scale score for the total population of students taking the 2005 third-grade Spanish Reading assessment is 523 with a standard deviation of 46.8. The mean scale score for female students is 531 with a standard deviation of 43.4, and the mean scale score for male students is 516 with a standard deviation of 48.7.

The scale score frequency distribution of the third-grade Spanish Reading assessment for the total population is shown in Table A-3. Figure A-3 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the sub-content areas range from 523 to 536; the median scale scores for the sub-content areas vary between 527 and 532, and all are close to the median for the total test scale score of 527.

[1] All tables and figures referenced in this section (A-1 through A-29) can be found in Appendix A.

The mean percents of the maximum obtainable score for the sub-content areas range from 54.8 to 70.7. The mean percent of the maximum obtainable score for the total test is 60.4.

Writing

The mean scale score for the total population of students taking the 2005 third-grade Writing assessment is 472 with a standard deviation of 50.6. The mean scale score for female students is 480 with a standard deviation of 50.6, and the mean scale score for male students is 464 with a standard deviation of 49.4.

The scale score frequency distribution for the total population is shown in Table A-4. Figure A-4 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the two content standards are 474 and 481, with standard deviations of 657.3 and 70.5, respectively. The mean scale scores for the sub-content areas range from 472 to 475. The median scale scores vary between 471 and 474 for the content standards, and between 471 and 474 for the sub-content areas. The median for the total test scale score is 472.
The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 74.6 and 82.7, respectively.

The mean percent of the maximum obtainable score for the total test is 79.2.
The mean percents of the maximum obtainable score for the sub-content areas range from 75.8 to 84.7.

Writing – Spanish Version

The mean scale score for the total population of students taking the 2005 third-grade Spanish Writing assessment is 503 with a standard deviation of 58.0. The mean scale score for female students is 514 with a standard deviation of 57.2 and the mean scale score for male students is 491 with a standard deviation of 56.4.

The scale score frequency distribution of the third-grade Spanish Writing assessment for the total population is shown in Table A-5. Figure A-5 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the two content standards are 504, and 507 respectively with median scale scores of 504 (CS2) and 506 (CS3). The mean scale scores for the sub-content areas range from 508 to 524; the median scale scores for the sub-content areas vary between 507 and 515. The median total scale score is 503.

The mean percents of the maximum obtainable score range from 64.1 to 74.2 for the content standards, and from 67.9 to 74.1 for the sub-content areas. The mean percent of the maximum obtainable score for the total test is 70.8.

Mathematics

The mean scale score for the total population of students taking the 2005 third-grade Mathematics assessment is 460 with a standard deviation of 84.8. The mean scale score for female students is 458 with a standard deviation of 84.1, and the mean scale score for male students is 462 with a standard deviation of 85.4.

The scale score frequency distribution for the total population is shown in Table A-1. Figure A-1 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal, with a small group of students located at the HOSS (Highest Obtainable Scale Score)

The mean scale scores for the content standards range from 468 to 480. The mean scale score for the sub-content area is 460. The median scale score is between 457 and 473 for the content standards, and between 458 for the sub-content area. The median for the total test scale score is 458. The mean percents of the maximum obtainable score for the content standards range from 72.1 on CS 6 (Computational Techniques) to 80.1 on CS 4/5 (Geometry and Measurement).

The mean percent of the maximum obtainable score for the total test is 76.0. The mean percent for the sub-content area is also 76.0.

Fourth Grade

Reading

The mean scale score for the total population of students taking the 2005 fourth-grade Reading assessment is 586 with a standard deviation of 66.3. The mean scale score for female students is 594 with a standard deviation of 63.2, and the mean scale score for male students is 579 with a standard deviation of 68.4.

The scale score frequency distribution for the total population is shown in Table A-7. Figure A-7 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the distributions of scale scores for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 589 to 592. The mean scale scores for the sub-content areas range from 586 to 619. The median scale scores vary between 593 and 596 for the content standards, and between 592 and 596 for the sub-content areas. The median for the total test scale score is 594. The mean percents of the maximum obtainable score for the content standards range from 61.5 on CS 4 (Thinking Skills) to 69.3 on CS 1 (Reading Comprehension).

The mean percent of the maximum obtainable score for the total test is 66.4. The mean percents for the sub-content areas range from 62.3 to 77.9.

Reading – Spanish Version

The mean scale score for the total population of students taking the 2005 fourth-grade Spanish Reading assessment is 526 with a standard deviation of 44.5. The mean scale score for female students is 536 with a standard deviation of 35.0, and the mean scale score for male students is 518 with a standard deviation of 49.3.

The scale score frequency distribution for the total population is shown in Table A-8. Figure A-8 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the content standards range from 521 to 525. The mean scale scores for the sub-content areas range from 522 to 528. The median scale scores vary between 526 and 533 for the content standards, and between 526 and 533 for the sub-content areas, and all are close to the median for the total test scale score, 530.

The mean percents of the maximum obtainable score for the content standards range from 38.3 on CS 5 (Use of Literary Information) to 61.0 on CS 1 (Reading Comprehension). The mean percent of the maximum obtainable score for the total test is 55.9. The mean percents for the sub-content areas range from 53.3 to 67.0.

Writing

The mean scale score for the total population of students taking the 2005 fourth-grade Writing assessment is 487 with a standard deviation of 54.4. The mean scale score for female students is 496 with a standard deviation of 54.8, and the mean scale score for male students is 478 with a standard deviation of 52.3.

The scale score frequency distribution for the total population is shown in Table A-9. Figure A-9 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards vary between 489 and 493. The mean scale scores for the sub-content areas range from 494 to 511. The median scale scores vary between 487 and 488 for the content standards, and between 486 and 516 for the sub-content areas. The median for the total test scale score is 488. The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 72.2 and 78.7, respectively.

The mean percent of the maximum obtainable score for the total test is 75.3. The mean percents of the maximum obtainable score for the sub-content areas range from 70.2 to 81.5

Writing – Spanish Version

The mean scale score for the total population of students taking the 2005 fourth-grade Spanish Writing assessment is 515 with a standard deviation of 40.8. The mean scale score for female students is 525 with a standard deviation of 34.7, and the mean scale score for male students is 508 with a standard deviation of 43.5.

The scale score frequency distribution for the total population is shown in Table A-10. Figure A-10 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately.

The mean scale score for each of the two content standards ranges from 515 to 516. The mean scale scores for the sub-content areas range from 505 to 517. The median scale scores for the two content standards are 517 and 519. The median scale scores for the sub-content areas vary between 506 and 520. The median for the total test scale score is 519. The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 52.3 and 54.7, respectively.

The mean percent of the maximum obtainable score for the total test is 53.7. The mean percents of the maximum obtainable score for the sub-content areas range from 43.0 to 60.7.

Mathematics

The mean scale score for the total population of students taking the 2005 fourth - grade Mathematics assessment is 482 with a standard deviation of 74.5. The mean scale score for female students is 480 with a standard deviation of 73.2,

and the mean scale score for male students is 483 with a standard deviation of 75.7.

The scale score frequency distribution for the total population is shown in Table A-6. Figure A-6 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards range from 484 to 507. The mean scale scores for the sub-content areas range from 486 to 506. The median scale scores vary between 485 and 487 for the content standards, and between 484 and 488 for the sub-content areas. The median for the total test scale score is 485. The mean percents of the maximum obtainable score for the content standards range from 65.6 on CS 1 (Number Sense) to 77.6 on CS 6 (Computational Techniques).

The mean percent of the maximum obtainable score for the total test is 71.9. The mean percents for the sub-content areas range from 66.3 to 72.0.

Fifth Grade

Reading

The mean scale score for the total population of students taking the 2005 fifth-grade Reading assessment is 612 with a standard deviation of 68.7. The mean scale score for female students is 619 with a standard deviation of 64.3 and the mean scale score for male students is 605 with a standard deviation of 72.0.

The scale score frequency distribution for the total population is shown in Table A-12. Figure A-12 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 613 to 614. The mean scale scores for the sub-content areas range from 612 to 614. The median scale scores vary between 617 and 619 for the content standards, and between 614 and 622 for the sub-content areas, and all are close to the median for the total test scale score, 618.

The mean percents of the maximum obtainable score for content standards range from 63.7 on CS 6 (Literature) to 66.1 on CS 1 (Reading Comprehension). The mean percent of the maximum obtainable score for the total test is 4.5. The mean percents for the sub-content areas range from 62.7 to 67.5.

Writing

The mean scale score for the total population of students taking the 2005 fifth-grade Writing assessment is 507 with a standard deviation of 54.8. The mean scale score for female students is 518 with a standard deviation of 55.0, and the mean scale score for male students is 497 with a standard deviation of 52.6.

The scale score frequency distribution for the total population is shown in Table A-13. Figure A-13 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards vary between 509 and 511. The mean scale scores for the sub-content areas range from 512 to 543. The median scale scores vary between 506 and 509 for the content standards, and between 509 and 525 for the sub-content areas. Most are close to the median for the total test scale score, 507.

The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 67.7 and 72.7, respectively. The mean percent of the maximum obtainable score for the total test is 70.3. The mean percents of the maximum obtainable score for the sub-content areas range from 67.6 to 74.6.

Mathematics

The mean scale score for the total population of students taking the 2005 fifth-grade Mathematics assessment is 516 with a standard deviation of 76.1. The mean scale score for female students is 515 with a standard deviation of 74.2, and the mean scale score for male students is 518 with a standard deviation of 77.8.

The scale score frequency distribution for the total population is shown in Table A-11. Figure A-11 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards range from 520 to 539. The mean scale scores for the sub-content areas range from 522 to 554. The median scale scores vary between 519 and 520 for the content standards, and between 5019 and 520 for the sub-content areas. The median for the total test scale score is 519. The mean percents of the maximum obtainable score for the content

standards range from 63.7 on CS 4/5 (Geometry and Measurement) to 75.2 on CS 2 (Algebra, Patterns, and Functions).

The mean percent of the maximum obtainable score for the total test is 71.6. The mean percents for the sub-content areas range from 69.5 to 76.9.

Sixth Grade

Reading

The mean scale score for the total population of students taking the 2005 sixth-grade Reading assessment is 622 with a standard deviation of 69.8. The mean scale score for female students is 628 with a standard deviation of 65.6, and the mean scale score for male students is 616 with a standard deviation of 73.2.

The scale score frequency distribution for the total population is shown in Table A-15. Figure A-15 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 618 to 635. The mean scale scores for the sub-content areas range from 620 to 631. The median scale scores vary between 630 and 631 for the content standards, and between 629 and 632 for the sub-content areas, and all are close to the median for the total test scale score, 630. The mean percents of the maximum obtainable score for content standards range from 50.1 on CS 6 (Literature) to 72.2 on CS 4 (Thinking Skills).

The mean percent of the maximum obtainable score for the total test is 57.9. The mean percents for the sub-content areas range from 55.3 to 62.8.

Writing

The mean scale score for the total population of students taking the 2005 sixth-grade Writing assessment is 527with a standard deviation of 63.0. The mean scale score for female students is 540 with a standard deviation of 61.2, and the mean scale score for male students is 515 with a standard deviation of 62.2.

The scale score frequency distribution for the total population is shown in Table A-16. Figure A-16 graphically represents the scale score frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards vary between 528 and 529. The mean scale scores for the sub-content areas range from 526 to 536. The median scale scores are both 528 for the content standards, and between 496 and 529 for the sub-content areas. The median for the total test scale score is 528. The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 64.5 and 61.0, respectively.

The mean percent of the maximum obtainable score for the total test is 62.8. The mean percents of the maximum obtainable score for the sub-content areas range from 60.0 to69.0.

Mathematics

The mean scale score for the total population of students taking the 2005 sixth-grade Mathematics assessment is 532 with a standard deviation of 76.3. The mean scale score for female students is 532 with a standard deviation of 72.8, and the mean scale score for male students is 533 with a standard deviation of 79.5.

The scale score frequency distribution for the total population is shown in Table A-14. Figure A-14 graphically represents the frequency distributions for the total population and for the groups of male and female students separately.

The mean scale scores for the content standards range from 532 to 539. The mean scale scores for sub-content areas range from 529 to 541. The median scale scores vary between 533 and 538 for the content standards, and between 531 and 536 for the sub-content areas, and all are close to the median for the total test scale score, 533. The mean percents of the maximum obtainable score for the content standards range from 54.9 on CS 1 (Number Sense) to 68.3 on CS 2 (Algebra, Patterns, and Functions).

The mean percent of the maximum obtainable score for the total test is 60.4. The mean percents of the maximum obtainable score for the sub-content areas range from 54.5 to 59.4.

Seventh Grade

Reading

The mean scale score for the total population of students taking the 2005 seventh-grade Reading assessment is 637 with a standard deviation of 66.5. The mean scale score for female students is 644 with a standard deviation of 62.3, and the mean scale score for male students is 629 with a standard deviation of 69.5.

The scale score frequency distribution for the total population is shown in Table A-18. Figure A-18 graphically represents the frequency distributions for total population and for the groups of male and female students separately. The figure indicates that the distribution of the scale scores for the total population and for each gender is slightly negatively skewed.

The mean scale scores for the content standards range from 635 to 638. The mean scale scores for the sub-content areas range from 621 to 661. The median scale scores vary between 643 and 646 for the content standards, and between 643 and 646 for the sub-content areas, and all are close to the median for the total test scale score, 644.

The mean percents of the maximum obtainable score for the content standards range from 60.4 on CS 1 (Reading Comprehension) to 62.3 on CS 4 (Thinking Skills). The mean percent of the maximum obtainable score for the total test is 61.1. The mean percents of the maximum obtainable score for the sub-content areas range from 50.8 to 71.3.

Writing

The mean scale score for the total population of students taking the 2005 seventh-grade Writing assessment is 549 with a standard deviation of 71.5. The mean scale score for female students is 566 with a standard deviation of 68.4, and the mean scale score for male students is 532 with a standard deviation of 70.5.

The scale score frequency distribution for the total population is shown in Table A-19. Figure A-19 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure indicates that the scale score distributions are approximately normal for the total population and for each gender.

The mean scale scores for the content standards vary between 550 and 551. The mean scale scores for the sub-content areas range from 550 to 555. The median scale scores vary between 550 and 552 for the content standards, and between 503 and 553 for the sub-content areas, and most are close to the median for the total test scale score, 551.

The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 62.9 and 61.8, respectively. The mean percent of the maximum obtainable score for the total test is 62.3. The mean percents of the maximum obtainable score for the sub-content areas range from 57.9 to 69.1.

Mathematics

The mean scale score for the total population of students taking the 2005 seventh-grade Mathematics assessment is 550 with a standard deviation of 69.5. The mean scale score for female students is 550 with a standard deviation of 66.9. The mean scale score for male students is 550 with a standard deviation of 72.0.

The scale score frequency distribution for the total population is shown in Table A-17. Figure A-17 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure indicates that the scale score distributions are very slightly negatively skewed for the total population and for each gender.

The mean scale scores for the content standards range from 544 to 556. The mean scale scores for the sub-content areas range from 527 to 552. The median scale scores vary between 553 and 554 for the content standards, and between 552 and 554 for the sub-content areas, and all are close to the median for the total test scale score, 553. The mean percents of the maximum obtainable score for the content standards range from 44.3 on CS 4/5 (Geometry and Measurement) to 59.6 on CS 2 (Algebra, Patterns, and Functions).

The mean percent of the maximum obtainable score for the total test is 50.1. The mean percents of the maximum obtainable score for the sub-content areas range from 31.6 to 51.2.

Eighth Grade

Reading

The mean scale score for the total population of students taking the 2005 eighth-grade Reading assessment is 649 with a standard deviation of 64.4. The mean scale score for female students is 658 with a standard deviation of 59.9, and the mean scale score for male students is 641 with a standard deviation of 67.4.

The scale score frequency distribution for the total population is shown in Table A-21. Figure A-21 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 649 to 654. The mean scale scores for the sub-content areas range from 645 to 667. The median scale scores vary between 655 and 657 for the content standards, and between 656 and 657 for the sub-content areas, and all are fairly close to the median for

the total test scale score, 656. The mean percents of the maximum obtainable score for the content standards range from 57.0 on CS 6 (Literature) to 65.0 on CS 5 (Use of Literary Information).

The mean percent of the maximum obtainable score for the total test is 60.9. The mean percents of the maximum obtainable score for the sub-content areas range from 50.2 to 66.3.

Writing

The mean scale score for the total population of students taking the 2005 eighth-grade Writing assessment is 557 with a standard deviation of 73.2. The mean scale score for female students is 576 with a standard deviation of 69.8, and the mean scale score for male students is 540 with a standard deviation of 72.1.

The scale score frequency distribution for the total population is shown in Table A-22. Figure A-22 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure indicates that the scale score distributions are approximately normal for the total population and for each gender.

The mean scale scores for the content standards vary between 558 and 561. The mean scale scores for the sub-content areas range from 559 to 589. The median scale scores vary between 558 and 561 for the content standards, and between 557 and 562 for the sub-content areas, and most are close to the median for the total test scale score, 560. Both the mean and median scale scores for SA 6 (Extended Writing), 572 and 558 respectively, were a bit higher than the mean and median for the total test score. It should be noted that the score for this sub-content area is computed based on the four scores a student gets for his/her response to the extended writing prompt. Consequently, the scale score variable for this sub-content area is rather discrete.

The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 65.7 and 65.2, respectively. The mean percent of the maximum obtainable score for the total test is 65.4. The mean percents of the maximum obtainable score for the sub-content areas range from 59.8 to 73.4.

Mathematics

The mean scale score for the total population of students taking the 2005 eighth-grade Mathematics assessment is 563 with a standard deviation of 66.5. The mean scale score for female students is 563 with a standard deviation of 62.2. The mean scale score for male students is 563 with a standard deviation of 70.3.

The scale score frequency distribution for the total population is shown in Table A-20. Figure A-20 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The scale score distributions are slightly negatively skewed for the total population and for each gender.

The mean scale scores for the content standards range from 555 to 562. The mean scale scores for sub-content areas range from 556 to 560. The median scale scores vary between 568 and 571 for the content standards, and between 566 and 568 for the sub-content areas, and all are fairly close to the median for the total test scale score, 568.

The mean percents of the maximum obtainable score for the content standards range from 40.5 on CS 1 (Number Sense) to 52.4 on CS 3 (Statistics and Probability). The mean percent of the maximum obtainable score for the total test is 47.7. The mean percents of the maximum obtainable score for the sub-content areas range from 40.2 to 43.2.

Science

The mean scale score for the total population of students taking the 2005 eighth-grade Science assessment is 503 with a standard deviation of 60.6. The mean scale score for female students is 500 with a standard deviation of 56.9, and the mean scale score for male students is 505 with a standard deviation of 63.9.

The scale score frequency distribution for the total population is shown in Table A-23. Figure A-23 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The distributions of the scale scores are slightly negatively skewed for the total population and for each gender.

The mean scale scores for the content standards range from 499 to 514. The mean scale scores for the sub-content areas range from 498 to 518. The median scale scores vary between 506 and 509 for the content standards, and between 503 and 510 for the sub-content areas, and most are very close to the median for the total test scale score, 508.

The mean percents of the maximum obtainable score for the content standards range from 43.5 on CS 2 (Results and Data Analysis) to 65.9 on CS 1 (Experimental Design and Investigations) and 5(Earth Science). The mean percent of the obtainable score for the total test is 54.9. The mean percents of the maximum obtainable score for the sub-content areas range from 40.5 to 71.6.

Ninth Grade

Reading

The mean scale score for the total population of students taking the 2005 ninth-grade Reading assessment is 659 with a standard deviation of 54.7. The mean scale score for female students is 668 with a standard deviation of 49.9, and the mean scale score for male students is 651 with a standard deviation of 57.7.

The scale score frequency distribution for the total population is shown in Table A-25. Figure A-25 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 656 to 663. The mean scale scores for the sub-content areas range from 657 to 676. The median scale scores vary between 664 and 667 for the content standards, and between 664 and 668 for the sub-content areas, and all are close to the median for the total test scale score, 665.

The mean percents of the maximum obtainable score for the content standards range from 53.3 on CS 1 (Reading and Comprehension) to 62.2 on CS 6 (Literature). The mean percent of the maximum obtainable score for the total test is 58.8. The mean percents of the maximum obtainable score for the sub-content areas range from 50.2 to 66.3.

Writing

The mean scale score for the total population of students taking the 2005 ninth-grade Writing assessment is 567 with a standard deviation of 77.1. The mean scale score for female students is 584 with a standard deviation of 73.9, and the mean scale score for male students is 551 with a standard deviation of 76.5.

The scale score frequency distribution for the total population is shown in Table A-26. Figure A-26 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure indicates that the scale score distributions are approximately normal for the total population and for each gender.

The mean scale scores for the content standards vary between 568 and 569. The mean scale scores for sub-content areas range from 569 to 576. The median scale scores vary between 567 and 571 for the content standards, and between 569 and 572 for the sub-content areas, and most are close to the median for the total test scale score, 570. The median scale score for SA 6 (Extended Writing) was somewhat higher than the median for the total test score.

It should be noted that the score for this sub-content area is computed based on the four scores a student gets for his/her response to the extended writing prompt. Consequently, the scale score variable for this sub-content area is rather discrete.

The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 65.9 and 60.6, respectively. The mean percent of the maximum obtainable score for the total test is 63.3. The mean percents of the maximum obtainable score for the sub-content areas range from 57.4 to 68.8.

Mathematics

The mean scale score for the total population of students taking the 2005 ninth-grade Mathematics assessment is 569 with a standard deviation of 70.6. The mean scale score for female students is 570 with a standard deviation of 66.1, and the mean scale score for male students is 568 with a standard deviation of 74.5.

The scale score frequency distribution for the total population is shown in Table A-24. Figure A-24 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The scale score distributions are slightly negatively skewed for the total population and for each gender.

The mean scale scores for the content standards range from 560 to 569. The mean scale scores for the sub-content areas are 561 and 567. The median scale scores vary between 575 and 576 for the content standards, and 573 and 577 for the sub-content areas, and all are close to the median for the total test scale score, 576.

The mean percents of the maximum obtainable score for the content standards range from 35.9 on CS 1 (Number Sense) to 45.1 on CS 2 (Algebra, Patterns, and Functions). The mean percent of the maximum obtainable score for the total test is 40.0. The mean percents of the maximum obtainable score for the sub-content areas range from 31.1 to 42.6.

Tenth Grade

Reading

The mean scale score for the total population of students taking the 2005 tenth-grade Reading assessment is 682 with a standard deviation of 57.7. The mean scale score for female students is 692 with a standard deviation of 52.3, and the mean scale score for male students is 672 with a standard deviation of 60.9.

The scale score frequency distribution for the total population is shown in Table A-28. Figure A-28 graphically represents the frequency distributions for total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are negatively skewed.

The mean scale scores for the content standards range from 678 to 690. The mean scale scores for the sub-content areas range from 680 to 689. The median scale scores vary between 687 and 689 for the content standards, and between 687 and 689 for the sub-content areas, and all are close to the median for the total test scale score, 688.

The mean percents of the maximum obtainable score for the content standards range from 54.5 on CS 1 (Number Sense) to 71.1 on CS 4 (Thinking Skills). The mean percent of the maximum obtainable score for the total test is 61.5. The mean percents of the maximum obtainable score for the sub-content areas range from 56.1 to 69.6.

Writing

The mean scale score for the total population of students taking the 2005 tenth-grade Writing assessment is 577 with a standard deviation of 79.9. The mean scale score for female students is 596 with a standard deviation of 76.6, and the mean scale score for male students is 559 with a standard deviation of 78.8.

The scale score frequency distribution for the total population is shown in Table A-29. Figure A-29 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are approximately normal.

The mean scale scores for the content standards vary between 577 and 580. The mean scale scores for the sub-content areas range from 579 to 583. The median scale scores vary between 578 and 581 for the content standards, and between 529 and 583 for the sub-content areas, and most are close to the median for the total test scale score, 580.

The mean percents of the maximum obtainable score for CS 2 (Write for a Variety of Purposes) and CS 3 (Write Using Conventions) are 65.5 and 65.1 respectively. The mean percent of the maximum obtainable score for the total test is 65.3. The mean percents of the maximum obtainable score for the sub-content areas vary from 60.2 to 69.3.

Mathematics

The mean scale score for all students taking the 2005 tenth-grade Mathematics assessment is 585 with a standard deviation of 73.5. The mean scale score for female students is 585 with a standard deviation of 68.6, and the mean scale score for male students is 585 with a standard deviation of 78.0.

The scale score frequency distribution for the total population is shown in Table A-27. Figure A-27 graphically represents the frequency distributions for the total population and for the groups of male and female students separately. The figure shows that the scale score distributions for the total population and for each gender are slightly negatively skewed.

The mean scale scores for the content standards range from 564 to 585. The mean scale scores for the sub-content areas are 579 and 586. The median scale scores vary between 592 and 594 for the content standards, and between 594 and 596 for the sub-content areas, and most are close to the median for the total test scale score, 593.

The mean percents of the maximum obtainable score for the content standards range from 28.1 on CS 4/5 (Geometry and Measurement) to 44.9 on CS 3 (Statistics and Probability). The mean percent of the maximum obtainable score for the total test is 39.0. The mean percents of the maximum obtainable score for SA 1 and SA 2 are 48.2 and 39.2, respectively.

Correlations Among Content Standards and Among Sub-Content Areas

Tables 13 through 16 show the correlations between the scale scores for the total test and for the various content standards and sub-content areas, for each grade and content area. All content standards and sub-content areas are positively correlated, as would be expected.

For the Reading assessments, the correlation coefficients vary between .62 (grade 6 and 10) and .76 (grades 6 and 8) for the relationship between the various content standards, and between .50 (grades 4 and 9) and .74 (grade 5) for the relationship between the various sub-content areas, respectively.

For the Grade 3 Spanish Reading assessments, correlations among sub-content areas vary between .52 and .63. For the Grade 4 Spanish Reading assessments, the correlations among the various content standards vary between .58 and .74 and correlations among sub-content areas vary between .49 and .67.

For the Writing assessments, the coefficients for the correlation between content standards 2 and 3 vary between .63 (grade 3) and .78 (grade 9). The correlations among the various sub-content areas vary between .38 (grade 4) and .70 (grade 7).

For the Spanish Writing assessment, the correlation between content standards 2 and 3 varies between .64 (grade 3) and .67 (grade 4); the correlations between the various sub-content areas vary between .39 and .53.

For the Mathematics assessments, the correlations vary between .55 (grade 3) and .81 (grade 9) for the relationship among the content standards, and between .53 (grade 4) and .71 (grades 6 and 9) for the relationship among the sub-content areas.

Finally, for the Science assessment, the correlation coefficients vary between .59 and .75 for the relationship among the content standards, and between .52 and .62 for the relationship among the sub-content areas.

Test Reliability

Reliability is an index of the consistency of test results. A reliable test is one that produces scores that are expected to be relatively stable if the test is administered repeatedly under similar conditions. Cronbach's alpha is a frequently used measure of internal consistency. Based on a single administration of a test, Cronbach's alpha provides a reliability estimate that equals the average of all split-half coefficients that would be obtained on all possible divisions of the test into halves. Such a split-half coefficient would be obtained by correlating one half of the test with the other half and then adjusting the correlation with the Spearman-Brown formula so that it applies to the whole test (see Allen & Yen, 1979, pp. 83-88).

Table 17 shows the estimated reliability index (Cronbach's alpha) for the total test and for each content standard at each grade. Total score reliability coefficients are all greater than .86, and all except three (Grade 3 Reading, Grade 3 Spanish Reading and Grade 4 Spanish Writing) are equal to or greater than .90. These reliability coefficients indicate that the Colorado 2005 assessments had strong internal consistency and that the tests produce relatively stable scores.

Table 17 also shows the reliability coefficients for individual standards. Table 18 provides similar information for all of the sub-content areas. These coefficients tend to be somewhat lower than the coefficients for the total test scores. These results are consistent with the smaller numbers of items that contribute to each standard and sub-content area.

Part 4: Item Analyses

Tables 18 through 71 display the item analysis results for both multiple-choice (MC) and constructed-response (CR) items for each grade and content area. The product-moment correlation coefficient is used to estimate the item-to-total-score correlation (r_itt) for each item. The coefficient for each item is based on the item score and the score computed as the total of all *other* items on the test (hence, the item itself is excluded from the total score). For items having only two levels, the product-moment coefficient is the point-biserial correlation. The p-value for each MC item is the percent of students who gave a correct response to the item. The p-value for each CR item is the mean percent of the maximum possible score. The item-to-total-score correlations, the p-values, the percentage of omits, and the percentages at each score level (for the CR items) are based on the analysis of responses of students who had valid total test scores only. Any omitted responses to individual items were treated as incorrect for the calculation of the p-values and the item-to-total-score correlations. This was consistent with how these omits are treated in the computation of the operational scale scores.

Third Grade

Reading

Table 19 lists the results of the multiple-choice item analyses for the 2005 third-grade Reading assessment. The point-biserials for all multiple-choice items range from .12 to .57 with a mean of .43. The p-values for these items range from .39 to .89 with a mean of .72.

Table 20 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .42 to .62 with a mean of .55. Their p-values range from .42 to .93 with a mean of .64. An examination of the percent of students obtaining each score point for the constructed-response items shows that there is a reasonable amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the third-grade Reading assessment was small, ranging from .0% to 3.4% for multiple-choice items (Table 19) and .5% to 4.3% for constructed-response items (Table 20).

Reading – Spanish Version

Table 21 lists the results of the multiple-choice item analyses for the Spanish version of the 2005 third-grade Reading assessment. The point-biserials for all multiple-choice items range from .15 to .54 with a mean of .39. The p-values for these items range from .17 to .93 with a mean of .62.

Table 22 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .44 to .68 with a mean of .57. Their p-values range from .37 to .82, with a mean of .59. An examination of the percent of students obtaining each score point for the constructed-response items shows that there is a reasonable amount of variability in students' responses to most items, indicating that these items work reasonably well over the range of student ability.

The omit rate for the Spanish version of the third-grade Reading assessment was small, ranging from .1% to 7.1% for multiple-choice items (Table 21) and .4% to 7.6% for constructed-response items with two out of the 8 constructed-response items having an omit rate greater than or equal to 5% (Table 22).

Writing

Table 23 lists the results of the multiple-choice item analyses for the 2005 third-grade Writing assessment. The point-biserials for all multiple-choice items range from .28 to .55 with a mean of .42. The p-values for these items range from .57 to .97 with a mean of .83.

Table 24 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .18 to .53 with a mean of .42. Their p-values range from .57 to .97, with a mean of .83. For 11 out of the 18 constructed-response items, over 80% of the students obtained the highest possible score points.

The omit rate for the third-grade Writing assessment was small, ranging from .0% to 1.2% for multiple-choice items (Table 23) and from .3% to .7% for constructed-response items (Table 24).

Writing – Spanish Version

Table 25 lists the results of the multiple-choice item analyses for the Spanish version of the 2005 third-grade Writing assessment. The point-biserials for all multiple-choice items range from .15 to .53 with a mean of .37. The p-values for these items range from .19 to .96 with a mean of .71.

Table 26 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .28 to .55 with a mean of .45. Their p-values range from .29 to .95, with a mean of .72. An examination of the percent of students obtaining each score point for the

constructed-response items shows that there is a reasonable amount of variability in students' responses to most items, indicating that these items work reasonably well over the range of student ability.

The omit rate for the Spanish version of the third-grade Writing assessment was small, ranging from .1% to 1.2% for multiple-choice items (Table 25) and .3% to .7% for constructed-response items (Table 26).

Mathematics

Table 27 lists the results of the multiple-choice item analyses for the 2005 third-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .19 to .56, with a mean of .39. The p-values for the multiple-choice items range from .36 to .99 with a mean of .83.

Table 28 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .53 to .69 with a mean of .59. Their p-values range from .37 to .76 with a mean of .64. The distribution of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the third-grade Mathematics assessment was low, ranging from .1% to 5.6% for multiple-choice items (Table 27) and .1% to 6.2% for constructed-response items with one out of the 8 constructed-response items having an omit rate greater than or equal to 5% (Table 28).

Fourth Grade

Reading

Table 29 lists the results of the multiple-choice item analyses for the 2005 fourth-grade Reading assessment. The point-biserials for the multiple-choice items range from .09 to .52 with a mean of .41. The p-values for the multiple-choice items range from .13 to .92 with a mean of .69.

Table 30 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .38 to .65 with a mean of .55. Their p-values range from .24 to 96 with a mean of .64. An examination of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the

range of student ability. Over 60% of the students obtained the highest possible score points in 4 out of 14 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The omit rate for the fourth-grade Reading assessment was low, ranging from .1% to 5.2% for multiple-choice items (Table 29). The range was .4% to 3.8% for constructed-response items (Table 30).

Reading – Spanish Version

Table 31 lists the results of the multiple-choice item analyses for the Spanish version of the 2005 fourth-grade Reading assessment. The point-biserials for all multiple-choice items range from .03 to .54 with a mean of .36. The p-values for these items range from .10 to .92 with a mean of .57.

Table 32 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .16 to .68 with a mean of .50. Their p-values range from .15 to .78, with a mean of .43. An examination of the percent of students obtaining each score point for the constructed-response items shows that there is a reasonable amount of variability in students' responses to most items, indicating that these items work reasonably well over the range of student ability.

The omit rate for the Spanish version of the third-grade Reading assessment was low, ranging from .0% to 4.7% for multiple-choice items (Table 31) and .8% to 3.3% for constructed-response items (Table 32).

Writing

Table 33 lists the results of the multiple-choice item analyses for the 2005 fourth-grade Writing assessment. The point-biserials for all multiple-choice items range from .33 to .54 with a mean of .44. The p-values for these items range from .57 to .97 with a mean of .78.

Table 34 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .20 to .67 with a mean of .46. Their p-values range from .33 to .54, with a mean of .78.

The omit rate for the fourth-grade Writing assessment was small, ranging from .1% to 2.6% for multiple-choice items (Table 33) and .0% to 2.6% for constructed-response items (Table 34).

Writing – Spanish Version

Table 35 lists the results of the multiple-choice item analyses for the Spanish version of the 2005 fourth-grade Writing assessment. The point-biserials for all multiple-choice items range from .13 to .549 with a mean of .34. The p-values for the items range from .24 to .94 with a mean of .55.

Table 36 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed response items range from .12 to .62 with a mean of .41. Their p-values range from .17 to .96 with a mean of .53.

The omit rate for the fourth-grade Writing assessment was small, ranging from .0% to 2.7% for multiple-choice items (Table 35) and .0% to 9.0% for constructed-response items with one out of the 13 constructed-response items having an omit rate greater than or equal to 5% (Table 36).

Mathematics

Table 37 lists the results of the multiple-choice item analyses for the 2005 fourth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .22 to .55, with a mean of .39. The p-values for the multiple-choice items range from .44 to .99 with a mean of .80.

Table 38 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .49 to .68 with a mean of .61. Their p-values range from .29 to .88 with a mean of .62. The distribution of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the fifth-grade Mathematics assessment was low, ranging from .1% to 5.2 % for multiple-choice items (Table 37) and .1% to 2.8% for constructed-response items (Table 38).

Fifth Grade

Reading

Table 39 lists the results of the multiple-choice item analyses for the 2005 fifth-grade Reading assessment. The point-biserials for the multiple-choice items range from .11 to .54, with a mean of .37. The p-values for the multiple-choice items range from .42 to .90 with a mean of .68.

Table 40 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .32 to .68 with a mean of .53. Their p-values range from .22 to .85 with a mean of .58. The distribution of percent of students obtaining score level for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability. More than 50% of the students obtained the highest possible score points for 4 out of the 14 constructed-response items. The scores of the remaining students were well distributed across the score points in that item, indicating that they produced a reasonable amount of variability.

The omit rate for the fifth-grade Reading assessment was small, ranging from .0% to 3.2% for multiple-choice items (Table 39) and .3% to 7.1% for constructed-response items with one item have an omit rate of greater than 5% (Table 40).

Writing

Table 41 lists the results of the multiple-choice item analyses for the 2005 fifth-grade Writing assessment. The point-biserials for all multiple-choice items range from .15 to .54 with a mean of .39. The p-values for these items range from .29 to .93 with a mean of .71.

Table 42 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .04 to .69 with a mean of .46. Their p-values range from .42 to 1.00, with a mean of .69.

The omit rate for the fifth-grade Writing assessment was small, ranging from .1% to 2.2% for multiple-choice items (Table 41) and .0% to 2.1% for constructed-response items (Table 42).

Mathematics

Table 43 lists the results of the multiple-choice item analyses for the 2005 fifth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .25 to .54, with a mean of .43. The p-values for the multiple-choice items range from .31 to .97 with a mean of .73.

Table 44 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .49 to .72 with a mean of .60. Their p-values range from .53 to .86 with a mean of .70. The distribution of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the fifth-grade Mathematics assessment was low, ranging from .1% to 4.7% for multiple-choice items (Table 43) and .2% to 1.4% for constructed-response items (Table 44).

Sixth Grade

Reading

Table 45 lists the results of the multiple-choice item analyses for the 2005 sixth-grade Reading assessment. The point-biserials for the multiple-choice items range from .00 to .57 with a mean of .40. The p-values for the multiple-choice items range from .12 to .86 with a mean of .63.

Table 46 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .41 to .66 with a mean of .53. Their p-values range from .14 to .80 with a mean of .63. An examination of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability. Over 50% of the students obtained the highest possible score points in 3 out of the 14 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The omit rate for the sixth-grade Reading assessment was somewhat higher, ranging from .0% to 7.2% for multiple-choice items (Table 45) and .5% to 13.3% for constructed-response items with three items have omit rates greater than 5% (Table 46).

Writing

Table 47 lists the results of the multiple-choice item analyses for the 2005 sixth-grade Writing assessment. The point-biserials for all multiple-choice items range from .07 to .57 with a mean of .39. The p-values for these items range from .22 to .88 with a mean of .63.

Table 48 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .06 to .62 with a mean of .45. Their p-values range from .20 to .1.00 with a mean of .65.

The omit rate for the sixth-grade Writing assessment was small, ranging from .1% to 1.8% for multiple-choice items (Table 47) and .0% to 2.1% for constructed-response items (Table 48).

Mathematics

Table 49 lists the results of the multiple-choice item analyses for the 2005 sixth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .22 to .58, with a mean of .40. The p-values for the multiple-choice items range from .28 to .92 with a mean of .65.

Table 50 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .51 to .74 with a mean of .61. Their p-values range from .19 to .81 with a mean of .53. The distribution of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability. Over 50% of the students obtained the highest possible score points in 3 out of the 15 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The omit rate for the sixth-grade Mathematics assessment was reasonable, ranging from .1% to 4.4% for multiple-choice items (Table 49) and .2% to 2.7% for constructed-response items (Table 50).

Seventh Grade

Reading

Table 51 lists the results of the multiple-choice item analyses for the 2005 seventh-grade Reading assessment. The point-biserials for the multiple-choice items range from .15 to .58 with a mean of .40. The p-values for the multiple-choice items range from .20 to .93 with a mean of .64.

Table 52 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items are positive, ranging from .40 to .64 with a mean of .53. The p-values for the constructed-response items range from .20 to .81 with a mean of .5. An examination of the percent of students obtaining each score point for the Reading constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability. Over 50% of the students obtained the highest possible score points in only two out of the 14 constructed-response items. The scores of the remaining students are well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The percent of students who omitted the multiple-choice items in the 2005 grade 7 Reading assessment ranged from .1% to 3.3% (Table 51). The percent of students who omitted constructed-response items ranged from .6% to 5.5% with one item having an omit rate greater than 5% (Table 52).

Writing

Table 53 lists the results of the multiple-choice item analyses for the 2005 seventh-grade Writing assessment. The point-biserials for all multiple-choice items range from .13 to .52 with a mean of .38. The p-values for these items range from .26 to .88 with a mean of .62. MC item 86, with a point-biserial of -.06, did not discriminate between low and high ability students, and thus did not provide useful information on student ability. This item was removed from the operational test results for this reason.

Table 54 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .08 to .62 with a mean of .49. Their p-values range from .43 to .99, with a mean of .66.

The omit rate for the seventh-grade Writing assessment was small, ranging from .1% to 5.2% for multiple-choice items (Table 53) and .0% to 3.3% for constructed-response items (Table 54).

Mathematics

Table 55 lists the results of the multiple-choice item analyses for the 2005 seventh-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .16 to .58, with a mean of .41. The p-values for the multiple-choice items range from .13 to .97 with a mean of .60.

Table 56 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .54 to .77 with a mean of .66. Their p-values range from .16 to .70 with a mean of .38. The distribution of the percent of students obtaining each score point for the constructed-response items shows that there is a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the seventh-grade Mathematics assessment was generally low, ranging from .1% to 1.0% for multiple-choice items (Table 55) and .5% to 2.7% for constructed-response items (Table 56).

Eighth Grade

Reading

Table 57 lists the results of the multiple-choice item analyses for the 2005 eighth-grade Reading assessment. The point-biserials for the multiple-choice items range from .13 to .51 with a mean of .39. The p-values for the multiple-choice items range from .34 to .90 with a mean of .65.

Table 58 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .49 to .65 with a mean of .58. Their p-values range from .26 to .71 with a mean of .55. The distribution of the percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items. Over 50% of the students obtained the highest possible score points in five out of the 15 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The percent of students who omitted the multiple-choice items in the eighth-grade Reading assessment ranged from .1% to 4.0% (Table 57). The percent of students who omitted the constructed-response items ranged from .6% to 11.1% (Table 58), with three items having an omit rate greater than 5%.

Writing

Table 59 lists the results of the multiple-choice item analyses for the 2005 eighth-grade Writing assessment. The point-biserials for all multiple-choice items range from .07 to .56 with a mean of .40. The p-values for these items range from .33 to .91 with a mean of .67. MC item 49, with a point-biserial of -.06, did not discriminate between low and high ability students, and thus did not provide useful information on student ability. This item was removed from the operational test results for this reason.

Table 60 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .10 to .66 with a mean of .46. Their p-values range from .35 to .99, with a mean of .64.

The omit rate for the eighth-grade Writing assessment was small, ranging from .1% to 1.7% for multiple-choice items (Table 59) and .0% to 3.6% for constructed-response items (Table 60).

Mathematics

Table 61 lists the results of the multiple-choice item analyses for the 2005 eighth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .01 to .59 with a mean of .38. The p-values for these multiple-choice items range from .11 to .93 with a mean of .51.

Table 62 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .47 to .75 with a mean of .64. Their p-values range from .12 to .65 with a mean of .43. An examination of the percent of students obtaining each score point for the Mathematics constructed-response items shows a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The percent of students who omitted multiple-choice items in the eighth-grade Mathematics assessment ranged from .1% to 2.9% (Table 61). The percent of students who omitted constructed-response items ranged from .3% to 6.2%, with only one constructed-response item having an omit rate greater than 5% (Table 62).

Science

Table 63 lists the results of the multiple-choice item analyses for the 2005 eighth-grade Science assessment. The point-biserials for the multiple-choice items range from .15 to .55 with a mean of .35. The p-values for the multiple-choice items range from .22 to .90 with a mean of .63. Multiple-choice item 58, with a point-biserial of -.01 did not discriminate between high and low ability students, so this item was dropped before scoring.

Table 64 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .30 to .63 with a mean of .48. Their p-values range from .09 to 83 with a mean of .42. The percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The omit rate for the multiple-choice items for the eighth-grade Science assessment ranged from .1% to 2.5% (Table 63). The omit rate for the constructed-response items ranged from .8% to 9.4% (Table 64), with three of the items having an omit rate greater than 5%.

Ninth Grade

Reading

Table 65 lists the results of the multiple-choice item analyses for the 2005 ninth-grade Reading assessment. The point-biserials for the multiple-choice items range from .10 to .54 with a mean of .38. The p-values for the multiple-choice items range from .27 to .92 with a mean of .64.

Table 66 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .49 to .68 with a mean of .59. Their p-values range from .20 to .75 with a mean of .50. The percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items, indicating that these items work well over the range of student ability. Over 50% of the students obtained the highest possible score points in four out of the 14 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The omit rate for the multiple-choice items for the ninth-grade Reading assessment ranged from .1% to 1.5% (Table 65). The omit rate for the constructed-response items ranged from 2.0% to 13.2%, with eight out of the 14 items having an omit rate greater than 5% (Table 66).

Writing

Table 67 lists the results of the multiple-choice item analyses for the 2005 ninth-grade Writing assessment. The point-biserials for all multiple-choice items range from .20 to .58 with a mean of .43. The p-values for these items range from .29 to .97 with a mean of .67.

Table 68 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .15 to .66 with a mean of .49. Their p-values range from .16 to .99, with a mean of .56.

The omit rate for the ninth-grade Writing assessment was small, ranging from .1% to .7% for multiple-choice items (Table 67) and .0% to 4.9% for constructed-response items (Table 68).

Mathematics

Table 69 lists the results of the multiple-choice item analyses for the 2005 ninth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .13 to .52 with a mean of .36. The p-values for these multiple-choice

items range from .11 to .87 with a mean of .48. MC item 57, with a point-biserial of -.04, did not discriminate between low and high ability students, and thus did not provide useful information on student ability. This item was removed from the operational test results before scoring.

Table 70 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .40 to .77 with a mean of .64. Their p-values range from .16 to .56 with a mean of .30. An examination of the percent of students obtaining each score point for the Mathematics constructed-response items shows a fair amount of variability in students' responses to most items, indicating that these items work well over the range of student ability.

The percent of students who omitted multiple-choice items in the ninth-grade Mathematics assessment ranged from .1% to 1.7% (Table 69). The percent of students who omitted constructed-response items ranged from.7% to 6.1% with four out of the 15 constructed-response items having an omit rate greater than or equal to 5% (Table 70).

Tenth Grade

Reading

Table 71 lists the results of the multiple-choice item analyses for the 2005 tenth-grade Reading assessment. The point-biserials for the multiple-choice items range from .14 to .56 with a mean of .39. The p-values for the multiple-choice items range from .33 to .93 with a mean of .65.

Table 72 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .44 to .65 with a mean of .60. Their p-values range from .34 to .78 with a mean of .57. The distribution of the percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items. Over 50% of the students obtained the highest possible score points in four out of the 14 constructed-response items. The scores of the remaining students were well distributed across the score points, indicating that these items produced a reasonable amount of variability.

The omit rates for the multiple-choice items for the 2005 tenth-grade Reading assessment ranged from .1% to 1.7% (Table 71). Omit rates for the constructed-response items ranged from 1.5% to 13.2% (Table 72), with eight out of the 14 items having an omit rate greater than or equal to 5%.

Writing

Table 73 lists the results of the multiple-choice item analyses for the 2005 tenth-grade Writing assessment. The point-biserials for all multiple-choice items range from .21 to .54 with a mean of .41. The p-values for these items range from .28 to .91 with a mean of .65.

Table 74 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .15 to .68 with a mean of .49. Their p-values range from .48 to .98, with a mean of .71. The percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items.

The omit rate for the tenth-grade Writing assessment was small, ranging from .1% to 1.0% for multiple-choice items (Table 73) and .0% to 3.5% for constructed-response items (Table 74).

Mathematics

Table 75 lists the results of the multiple-choice item analyses for the 2005 tenth-grade Mathematics assessment. The point-biserials for the multiple-choice items range from .10 to .58 with a mean of .38. The p-values for the multiple-choice items range from .19 to .75 with a mean of .44.

Table 76 lists the results of the constructed-response item analyses. The item-to-total-score correlations for the constructed-response items range from .48 to .78 with a mean of .62. The p-values for the constructed-response items range from .16 to .68 with a mean of .35. The percent of students obtaining each score point for the constructed-response items shows a good amount of variability in students' responses to most items.

The omit rate for the multiple-choice items for the tenth-grade Mathematics assessment ranged from .1% to3.7% (Table 75). The omit rate for the constructed-response items ranged from .6% to 6.1% (Table 76) with three out of the 15 items having an omit rate greater than or equal to 5%.

Part 5: Scaling and Calibration

Overview of the IRT Models

CTB uses item response theory (IRT) to place multiple-choice and constructed-response items on the same scale. Because the characteristics of selected-response (multiple-choice) and constructed-response (open-ended) items are different, two item response theory models are used in the analysis of test forms containing both item types. The three-parameter logistic (3PL) model (Lord & Novick, 1968; Lord, 1980) is used for the analysis of selected-response items. In this model, the probability that a student with scale score θ responds correctly to item *i* is

$$P_i(\theta) = c_i + \frac{1 - c_i}{1 + \exp[-1.7a_i(\theta - b_i)]}$$

where a_i is the item discrimination, b_i is the item difficulty, and c_i is the probability of a correct response by a very-low-scoring student. These three parameters are estimated from the item response data.

For analysis of constructed-response items, the two-parameter partial credit model (2PPC) (Muraki, 1992; Yen, 1993) is used. The 2PPC model is a special case of Bock's (1972) nominal model. Bock's model states that the probability of an examinee with ability θ having a score at the *k*-th level of the *j*-th item is

$$P_{jk}(\theta) = P(x_j = k - 1|\theta) = \frac{\exp Z_{jk}}{\sum_{i=1}^{m_j} \exp Z_{ji}}, k = 1,...,m_j,$$

where m_j is the number of score levels and

$$Z_{jk} = A_{jk}\theta + C_{jk}$$

For the special case of the 2PPC model used here, the following constraints are used:

$$A_{jk} = \alpha_j(k-1)$$
$$\mathrm{k} = 1, 2, ..., \mathrm{m_j}$$

and

$$C_{jk} = -\sum_{i=0}^{k-1} \gamma_{ji}, \text{ where } \gamma_{j0} = 0,$$

where α_j and γ_{ji} are the parameters to be estimated from the data. The first constraint implies that higher item scores reflect higher ability levels and that items can vary in their discriminations. For the 2PPC model, for each item, there are $m_j - 1$ independent γ_{ji} parameters and one α_j parameter; a total of m_j independent item parameters are estimated.

The IRT models are implemented using CTB's PARDUX software (Burket, 1993). PARDUX estimates parameters simultaneously for dichotomous and polytomous items using marginal maximum likelihood procedures implemented via the EM algorithm (Bock & Aitkin, 1981; Thissen, 1982).

Scaling and Calibration of the Assessment

The items within each content area were scaled using CTB's computer program PARDUX (Burket, 1993), and a linear transformation was used to translate the PARDUX calibration scale to a unique Colorado scale. The parameter estimates are in two different parameterizations, corresponding to the two item response models (3PL and 2PPC). The location (i.e., difficulty) and discrimination parameters for the multiple-choice items are in the traditional 3PL metric and are labeled b and a, respectively. The location and discrimination parameters for the constructed-response items are in the 2PPC metric, designated g (gamma) and f (alpha), respectively. Because of the different metrics used, the 3PL (multiple-choice) parameters (a and b) are not directly comparable to the 2PPC (constructed-response) parameters (f and g). However, they can be converted to a common metric. The two metrics are related by b = g/f and a = f/1.7 (see Burket, 1993). As a result of this procedure, the MC and CR items are placed on the same scale. Note that for the 2PPC model there are $m_j - 1$ (where m_j is the number of score levels for item *j*) independent g's and one f, for a total of m_j independent parameters estimated for each item. For the 3PL model, there is one "a" parameter, one "b" parameter, and one pseudo-guessing parameter, "c", for each item.

Summary output tables from the PARDUX program present information on model fit for each item. Model fit information is obtained from the Z-statistic. The Z-statistic is a transformation of the chi-square (Q1) statistic that takes into account differing numbers of score levels as well as sample size:

$$Z_j = \frac{(Q_{1j} - DF)}{\sqrt{2DF}},$$

for the *j*th item. The Z-statistic is an index of the degree to which obtained proportions of students with each item score are close to the proportions that would be predicted by the estimated thetas and item parameters. These values, along with their associated chi-squares (Q1), are computed for ten intervals corresponding to deciles of the theta distribution (Burket, 1991). The chi-square statistic is used to characterize item fit as "good" or "poor."
The estimated item parameters will be used to score the student responses in a given test.

Model Fit

The model fit statistics and item parameter results are based on the analysis of a sample data set used for item calibration and scaling. The summary fit statistics

for the multiple-choice and constructed-response items for different grades and content areas are shown in Tables 77 through 134.

The relationship, Z=N*4/1500, gives the approximate critical Z-value for the CSAP assessments, where N is the sample size for the calibration sample. Fit statistics above this critical Z-value may indicate poor model fit.

Third Grade

The third grade item parameters and fit statistics are shown in Tables 77 to 86. The critical Z-values for these tables are 141.3 for Reading, 4.5 for Spanish Reading, 65.0 for Writing, 2.0 for Spanish Writing and 55.5 for Mathematics.

Across all content areas, only three items exceeded these critical Z-values and exhibited less than optimal fit: one Reading item (MC item 28), and two Spanish Writing items (MC items 20 and 21).

Fourth Grade

The fourth-grade item parameters and fit statistics are shown in Tables 87 to 96. The critical Z-values for these tables are 66.1 for Reading, 64.8 for Writing, and 55.9 for Mathematics. Spanish Reading and Spanish Writing both had critical Z-values of 0.6.

For Reading, Writing, and Mathematics, seven items exceeded these critical Z-values and exhibited less than optimal fit: two Reading items (CR item 17 and MC item 108), three Writing items (CR items 3A, 50, and 92), and two Mathematics items (CR items 23 and 31). Because of the low sample sizes (n=219) in Spanish Reading and Writing, an unusual number of items (44 items in Spanish Reading and 28 in Spanish Writing) had Z-values that exceeded critical-Z.

Fifth Grade

The fifth-grade item parameters and fit statistics are shown in Tables 97 to 102. The critical Z-values for these tables are 55.2 for Reading, 54.4 for Writing, and 53.7 for Mathematics.

Across all content areas, four items exceeded these critical Z-values and exhibited less than optimal fit: one Reading item (MC item 108), two Writing items (CR items 3A and 93), and one Mathematics item (CR item 23).

Sixth Grade

The sixth-grade item parameters and fit statistics are shown in Tables 103 to 108. The critical Z-values for these tables are 88.0 for Reading, 87.4 for Writing, and 52.6 for Mathematics.

Across all content areas, only six items exceeded these critical Z-values and exhibited less than optimal fit: one Reading item (CR item 44), one Writing item (CR item 101) and four Mathematics items (CR items 12, 40, 49, and 60).

Seventh Grade

The seventh-grade item parameters and fit statistics are shown in Tables 109 to 114. The critical Z-values for these tables are 85.7 for Reading, 85.2 for Writing, and 54.9 for Mathematics.

Across all content areas, eight items exceeded these critical Z-values and exhibited less than optimal fit: three Reading items (MC items 23,108 and CR item 116), two Writing items (CR items 3A and 94) and three Mathematics items (MC item 27 and CR items 53 and 57).

Eighth Grade

The eighth-grade item parameters and fit statistics are shown in Tables 115 to 122. The critical Z-values for these tables are 81.1 for Reading, 80.7 for Writing, 52.9 for Mathematics, and 52.0 for Science.

Across all content areas, 13 items exceeded these critical Z-values and exhibited less than optimal fit: two Reading items (MC items 96 and 108), three Writing items (MC item 82 and CR items 57 and 83), seven Mathematics items (MC items 14, 27, and CR items 7, 15, 44, 50 and 60), and one Science item (CR item 41).

Ninth Grade

The ninth-grade item parameters and fit statistics are shown in Tables 123 to 128. The critical Z-values for these tables are 64.5 for Reading, 64.3 for Writing, and 59.9 for Mathematics.

Across all content areas, ten items exceeded these critical Z-values and exhibited less than optimal fit: three Reading items (MC item 22, and CR items 14 and 47), two Writing items (CR items 3A, and 96), and 5 Mathematics items (MC item 46 and CR items 15, 32, 40 and 54).

Tenth Grade

The tenth-grade item parameters and fit statistics are shown in Tables 129 to 134. The critical Z-values for these tables are 72.6 for Reading, 72.3 for Writing, and 54.9 for Mathematics.

Across all content areas, ten items exceeded these critical Z-values and exhibited less than optimal fit: two Reading items (MC items 14 and 96), three Writing items (CR items 3A, 72, and 92), and five Mathematics items (MC items 14 and 30,and CR items 48,52 and 54).

Procedures for Detecting and Reducing Bias in CSAP

Four procedures were used to reduce bias in the CSAP Assessments. The first procedure is based on the premise that careful editorial attention to validity is an essential step in keeping bias to a minimum. Bias can occur only if the test is measuring different things for different groups. If the test entails irrelevant skills or knowledge, however common, the possibility of bias is increased. Thus, careful attention is paid to content validity.

The second step is to follow the McGraw-Hill guidelines designed to reduce or eliminate bias. Item writers are directed to the following published guidelines: Guidelines for Bias-Free Publishing (McGraw-Hill, 1983) and Reflecting Diversity: Multicultural Guidelines for Educational Publishing Professionals (Macmillan/McGraw-Hill, 1993). Developers review the materials with these considerations in mind.

In the third procedure, educational professionals and community members in the state who represent various gender and ethnic groups review all items. They are asked to consider and comment on the appropriateness of language, subject matter, and representation of people.

It is believed that these three procedures both improve the quality of CSAP and reduce bias. Current evidence, however, suggests that expertise in this area is no substitute for data; reviewers are often wrong about which items work to the disadvantage of a group, apparently because some of their ideas about how students will react to items may be faulty (Sandoval & Mille, 1980; Jensen, 1980; Scheuneman, 1987).

The fourth procedure, an empirical approach, involves statistical procedures referred to as differential item functioning (DIF) analyses.

Differential Item Functioning Analyses (DIF)

Because the tests were scored using item response theory, the appropriate procedure for examining DIF is one that reflects that use. A procedure suggested by Linn and Harnisch (1981) was used for the CSAP DIF studies. An example of this procedure for gender bias analyses follows.

The parameters for each item (a_i, b_i, and c_i) and the trait or scale score (θ) for each examinee are estimated for the three-parameter logistic model:

$$P_{ij}(\theta) = c_i + \frac{1 - c_i}{1 + \exp[-1.7a_i(\theta_j - b_i)]},$$

where $P_{ij}(\theta)$ is the probability that examinee *j*, with a given value of θ, will obtain a correct score on item *i*. Note that the item parameter estimates are based on data from the total sample of valid examinees. The sample is then divided into gender groups, and the members in each group are sorted into ten equal score categories (deciles) based upon their location on the score scale (θ). The expected proportion correct for each group based on the model prediction is compared to the observed (actual) proportion correct obtained by the group. The proportion of people in decile *g* who are expected to answer item *i* correctly is

$$P_{ij} = P_{ig}(\theta) = \frac{1}{n_g} \sum_{j \varepsilon g} P_{ij}(\theta),$$

where n_g is the number of examinees in decile *g*. To compute the proportion of students expected to answer item *i* correctly (over all deciles) for a group (e.g., Female) the formula is given by:

$$P_{i.} = P_i(\theta). = \frac{\sum_{g=1}^{10} n_g P_{ig}(\theta)}{\sum_{g=1}^{10} n_g}.$$

The corresponding observed proportion correct for examinees in a decile (O_{ig}) is the number of examinees in decile *g* who answered item *i* correctly divided by the number of people in the decile (n_g). That is,

$$O_{ig} = \frac{\sum_{j \varepsilon g} u_{ij}}{n_g},$$

where u_{ij} is the dichotomous score for item i for examinee j.

The corresponding formula to compute the observed proportion answering each item correctly (over all deciles) for a complete gender group is given by:

$$O_i. = \frac{\sum_{g=1}^{10} n_g O_{ig}}{\sum_{g=1}^{10} n_g} .$$

After the values are calculated for these variables, the difference between the observed proportion correct (for gender) and expected proportion correct can be computed. The decile group difference (D_{ig}) for observed and expected proportion correctly answering item i in decile g is

$$D_{ig} = O_{ig} - P_{ig}.$$

and the overall group difference (D_i) between observed and expected proportion correct for item i in the complete group (over all deciles) is

$$D_{i.} = O_{i.} - P_{i.} .$$

These indices are indicators of the degree to which members of gender groups perform better or worse than expected on each item, based on the parameter estimates from all sub-samples. Differences for decile groups provide an index for each of the ten regions on the score (θ) scale. The decile group difference (D_{ig}) can be either positive or negative. Use of the decile group differences as well as the overall group difference allows one to detect items that give a large positive difference in one range of θ and a large negative difference in another range of θ, yet have a small overall difference.

A generalization of the Linn and Harnisch (1981) procedure was used to measure DIF for constructed-response items.

Differential Item Functioning Ratings

Differential item functioning is defined in terms of the decile group and total target sub-sample differences, the D_{i-} (sum of the negative group differences) and D_{i+} (sum of the positive group differences) values, and the corresponding standardized difference (Z_i) for the sub-sample (see Linn and Harnisch, 1981, p. 112). Items for which $|D_i| \geq 0.10$ and $|Z_i| \geq 2.58$ are identified as possibly biased. If D_i is positive, the item is functioning differentially in favor of the target sub-sample. If D_i is negative, the item is functioning differentially against the target sub-sample.

Results of the Differential Item Functioning Analyses

The DIF analyses were conducted for all grades and content areas for African Americans, Hispanics, Caucasians, Males, and Females. Table 135 provides an overview of items flagged for DIF in the various assessments. The results for each assessment are briefly described below.

On the Reading assessments, DIF was most evident at the higher grades. DIF was observed in only one grade 3 Reading item, no grade 4 or 5 Reading items and one grade 6 Reading item, compared with 2 grade 7 Reading items, 4 grade 8 Reading items, 2 grade 9 Reading items and 6 grade 10 Reading items. Across all grades, the Reading items that exhibited DIF tended to favor Hispanic students (5 items), Black students (3 items), and female students (8 items), and disfavored males (7 items). One item disfavored African American students, one item disfavored females.

On the Writing assessments, DIF was observed in grades 4, 6, 7, 8, and 10. No DIF was observed in grades 3, 5 and 9. Across all grades, one item disfavored Hispanic students, one disfavored African American students, and four disfavored males. In addition, one Writing item favored Hispanic students, one item favored African American students, and three items favored females.

On the Mathematics assessments, DIF was observed in grade 4 and grades 6-9. No DIF was observed in grades 3, 5, and 10. Across all grades, 1 item disfavored females, three items disfavored males, four items disfavored African Americans, and 3 items disfavored Hispanic students. In addition, four Mathematics items favored females, and two items favored African American students.

On the Science assessment, one item exhibited DIF, favoring female students and disfavoring male students.

None of the Spanish Reading items exhibited significant DIF. While no DIF was observed in Grade 3 Spanish Writing, one item in grade 4 Spanish Writing disfavored females.

There was no DIF observed, either favoring or disfavoring, the Caucasian student population.

Standard Errors of Measurement

Measurement error is associated with every test score. A student's true score is the hypothetical average score that would result if the test could be administered repeatedly without the effects of practice or fatigue. The standard error of measurement (SEM) can be used to obtain a range within which a student's true

score is likely to fall. The fact that the score for a single test may not represent an individual's true status gives rise to the need for the standard error.
For example, an obtained score should be regarded not as an absolute value but as a point within a range that probably includes a student's true score. It is expected that 68% of the time a student's score obtained from a single testing would fall within one SEM of that student's true score and that 95% of the time the obtained score would fall within two standard errors of the true score.

Table 136 gives as an overall indication of the standard error of measurement for the scale scores of the CSAP assessments for each grade/content area, the square root of the average value of the variances of the error of measurement associated with each of the scale scores. Tables 137 through 140 provide estimates, based on item response theory, of standard errors of measurement for selected pattern scale scores for each of the CSAP assessments. The tables show that scores closer to the lowest and the highest obtainable scale scores for a particular grade, have higher measurement errors than scores closer to the mean.

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Table 1. The Colorado Model Content Standards and Sub-Content Areas

Reading		
Content Standards		
CS	Grades	
1	3-10	Reading Comprehension
4	4-10	Thinking Skills
5	4-10	Use of Literary Information
6	4-10	Literature
Sub-Content Areas		
SA	Grades	
1	7-10	Fiction
2	3-10	Nonfiction
3	3-10	Vocabulary
4	7-10	Poetry
1/4	3-6	Fiction and Poetry
Writing		
Content Standards		
CS	Grades	
2	3-10	Write for a Variety of Purposes
3	3-10	Write Using Conventions
Sub-Content Areas		
SA	Grades	
5	3-10	Paragraph Writing
6	4-10	Extended Writing
7	3-10	Grammar and Usage
8	3-10	Mechanics
Mathematics		
Content Standards		
CS	Grades	
1	3-6	Number Sense
2	4-10	Algebra, Patterns, and Functions
2/3	3	Algebra, Patterns, and Functions & Satistics and Probability
3	4-10	Satistics and Probability
4/5	3-10	Geometry and Measurement
6	3-6	Computational Techniques
1/6	7-10	Number Sense and Computational Techniques

Table 1. The Colorado Model Content Standards and Sub-Content Areas (Continued)

Mathematics (Continued)		
	Sub-Content Areas	
SA	Grades	
1	4-6	Number and Operational Sense
1	7	Number Sense
1	8	Linear Pattern Representation
1	9	Multiple Representations of Linear/Nonlinear Functions
1	10	Multiple Representations of Functions
2	4-6	Patterns
2	7	Area and Perimeter Relationships
2	8-9	Proportional Thinking
2	10	Probability and Counting Techniques
3	4	Measurement
3	5	Data Displays
3	6 and 8	Geometry
Science		
	Content Standards	
CS	Grades	
1	8	Scientific Investigations
2	8	Physical Science
3	8	Life Science
4	8	Earth and Space Science
5/6	8	Science and Technology
	Sub-Content Areas	
SA	Grades	
1	8	Experimental Design and Investigations
2	8	Results and Data Analysis
3	8	Physics
4	8	Cemistry
5	8	Earth Science

Table 2. Configuration of 2005 CSAP Assessments

Content Area	Grade	Maximum Possible Points	Total # of Items			Frequency of CR Items with the Given Number of Maximum Points			
			MC	CR	Total	1	2	3	4
Reading	3	53	32	8	40	0	5	1	2
Reading*	4	94(90)	56	15(14)	71(70)	0	9	4	1
Reading*	5	94(90)	58	15(14)	73(72)	0	10	4	0
Reading*	6	93(89)	57	15(14)	72(71)	0	10	4	0
Reading*	7	94(90)	58	15(14)	73(72)	0	10	4	0
Reading*	8	96(92)	54	16(15)	70(69)	0	9	4	2
Reading*	9	99(95)	56	16(15)	72(71)	0	6	9	0
Reading*	10	98(94)	56	15(14)	71(70)	0	6	6	2
Writing	3	56	35	18	53	15	3	0	0
Writing*	4	65(69)	40	12(13)	52(53)	7	1	0	5
Writing*	5	65(69)	40	12(13)	52(53)	7	1	0	5
Writing*	6	65(69)	40	12(13)	52(53)	7	1	0	5
Writing*	7**	64(68)	39	12(13)	51(52)	7	1	0	5
Writing*	8**	64(68)	39	12(13)	51(52)	7	1	0	5
Writing*	9	65(69)	40	12(13)	52(53)	7	1	0	5
Writing*	10	65(69)	40	12(13)	52(53)	7	1	0	5
Spanish Reading	3	50	33	8	41	0	7	1	0
Spanish Reading*	4	95(91)	56	15(14)	71(70)	1	7	4	2
Spanish Writing	3	56	35	18	53	15	3	0	0
Spanish Writing*	4	65(69)	40	12(13)	52(53)	7	1	0	5
Mathematics	3	50	32	8	40	0	6	2	0
Mathematics	4	96	54	15	69	0	6	6	3
Mathematics	5	96	54	15	69	0	6	6	3
Mathematics	6	87	45	15	60	0	6	6	3
Mathematics	7	87	45	15	60	0	6	6	3
Mathematics	8	87	45	15	60	0	6	6	3
Mathematics	9**	86	44	15	59	0	6	6	3
Mathematics	10	87	45	15	60	0	6	6	3
Science	8**	100	63	20	83	6	12	1	1

*Numbers in parentheses represent instances where Writing items were found in Reading test sessions (labeled Reading/Writing). The values in parentheses should be used for total score purposes.

**Content area in which an item was removed due to poor statistical performance. Count shown in this table does not include removed items.

Table 3. Configuration of 2005 CSAP Reading Assessments by Grade, Content Standard, Sub-Content Area, and Item Type

			Content Standard								Sub-Content Area									
			1		4		5		6		1		1/4		2		3		4	
Grade	Content Area	Item Type	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.
3	Reading	MC	32	32									18	18	6	6	8	8		
		CR	8	21									4	10	3	9	1	2		
4	Reading	MC	25	25	12	12	12	12	7	7			24	24	8	8	12	12		
		CR	5	11	2	7	2	5	5	11			10	25	1	2	1	2		
5	Reading	MC	22	22	20	20	10	10	6	6			18	18	20	20	10	10		
		CR	3	7			4	10	7	15			7	16	3	6				
6	Reading	MC	17	17	19	19	11	11	10	10			13	13	21	21	12	12		
		CR	6	13			3	8	5	11			3	6	8	18				
7	Reading	MC	16	16	16	16	15	15	11	11	13	13			8	8	11	11	11	11
		CR	6	14	2	4	2	5	4	9	4	9			4	9			4	9
8	Reading	MC	16	16	12	12	14	14	12	12	17	17			7	7	8	8	8	8
		CR	6	13	4	11	1	4	4	10	6	13			5	11			3	10
9	Reading	MC	13	13	12	12	20	20	11	11	9	9			9	9	10	10	8	8
		CR	8	21	3	8			4	10	6	15			7	18			2	6
10	Reading	MC	13	13	13	13	19	19	11	11	11	11			10	10	10	10	6	6
		CR	6	19	3	8			5	11	4	11			6	16			4	11
3	Spanish Reading	MC	33	33									13	13	10	10	10	10		
		CR	8	17									7	15	1	2				
4	Spanish Reading	MC	29	29	11	11	8	8	8	8			23	23	17	17	8	8		
		CR	2	7	4	7	5	12	3	9			6	13	3	10				

Table 4. Configuration of 2005 CSAP Writing Assessments by Grade, Content Standard, Sub-Content Area, and Item Type

			Content Standard				Sub-Content Area							
			2		3		5		6		7		8	
Grade	Content Area	Item Type	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.
3	Writing	MC	12	12	23	23	4	4			10	10	13	13
		CR	9	12	9	9	12	15			3	3	3	3
4	Writing	MC	15	15	25	25	7	7			16	16	9	9
		CR	6	21	7	8	3	12	4	11	2	2	4	4
5	Writing	MC	14	14	26	26	10	10			18	18	10	10
		CR	6	21	7	8	3	12	4	11	1	1	5	5
6	Writing	MC	15	15	25	25	6	6			24	24	8	8
		CR	6	21	7	8	3	12	4	11	1	1	5	5
7	Writing	MC	15	15	25	25	5	5			17	17	16	16
		CR	6	21	7	8	3	12	4	11	3	3	3	3
8	Writing	MC	15	15	25	25	9	9			20	20	7	7
		CR	6	21	7	8	3	12	4	11	2	2	4	4
9	Writing	MC	14	14	26	26	8	8			20	20	9	9
		CR	6	21	7	8	3	12	4	11	2	2	4	4
10	Writing	MC	15	15	25	25	8	8			18	18	11	11
		CR	6	21	7	8	3	12	4	11	3	3	3	3
3	Spanish Writing	MC	7	7	28	28					17	17	13	13
		CR	9	12	9	9	12	15			2	2	4	4
4	Spanish Writing	MC	9	9	31	31	3	3			23	23	8	8
		CR	6	21	7	8	3	12	4	11	2	2	4	4

Table 5. Configuration of 2005 CSAP Mathematics Assessments by Grade, Content Standard, Sub-Content Area, and Item Type

Grade	Content Area	Item Type	Content Standard														Sub-Content Area					
			1		1/6		2		3		2/3		4/5		6		1		2		3	
			No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.
		MC	6	6							9	9	12	12	5	5						
3	Math	CR	2	4							2	4	2	5	2	5						
		MC	10	10			6	6	9	9			17	17	12	12	7	7	5	5	7	7
4	Math	CR	3	10			3	8	2	5			4	12	3	7	5	15	3	8	1	3
		MC	14	14			8	8	7	7			12	12	13	13	13	13	3	3	4	4
5	Math	CR	2	5			4	11	4	12			3	9	2	5	3	8	4	11	2	7
		MC	10	10			7	7	7	7			12	12	9	9	11	11	5	5	7	7
6	Math	CR	2	7			3	10	4	11			4	10	2	4	4	11	3	10	3	7
		MC			15	15	9	9	9	9			12	12			5	5	3	3		
7	Math	CR			4	11	3	8	3	9			5	14			3	7	3	9		
		MC			11	11	11	11	9	9			14	14			5	5	6	6	5	5
8	Math	CR			4	11	4	11	3	8			4	12			3	9	5	13	2	7
		MC			10	10	12	12	11	11			12	12			5	5	4	4		
9	Math	CR			3	7	5	14	4	11			3	10			5	16	4	11		
		MC			12	12	12	12	11	11			10	10			3	3	6	6		
10	Math	CR			2	5	5	14	4	11			4	12			4	12	2	5		

Table 6. Configuration of 2005 CSAP Science Assessments by Grade, Content Standard, Sub-Content Area, and Item Type

			Content Standard									
			1		2		3		4		5/6	
Grade	Content Area	Item Type	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.
8	Science	MC	18	18	12	12	12	12	13	13	9	9
		CR	7	13	4	8	4	7	4	8	1	1

			Sub-Content Area									
			1		2		3		4		5	
Grade	Content Area	Item Type	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.	No. of Items	Total Pts.
8	Science	MC	5	5	12	12	4	4	8	8	9	9
		CR	3	5	3	6	3	6	1	2	4	8

Table 7. Lowest and Highest Obtainable Scale Scores for the 2005 CSAP Assessments

Grade	Content Area	LOSS	HOSS
3	Reading	150	795
4	Reading	180	940
5	Reading	220	955
6	Reading	260	970
7	Reading	300	980
8	Reading	330	990
9	Reading	350	995
10	Reading	370	999
3	Spanish Reading	300	740
4	Spanish Reading	300	790
3	Writing	150	680
4	Writing	190	730
5	Writing	220	780
6	Writing	230	840
7	Writing	240	890
8	Writing	250	910
9	Writing	260	930
10	Writing	270	950
3	Spanish Writing	250	750
4	Spanish Writing	300	790
3	Mathematics	150	700
4	Mathematics	180	780
5	Mathematics	220	800
6	Mathematics	240	830
7	Mathematics	280	860
8	Mathematics	310	890
9	Mathematics	340	920
10	Mathematics	370	950
8	Science	300	790

Table 8. Scale Score Descriptive Statistics for the Total Test

Content Area	Grade	Group	N	Mean SS	SD	Median SS
Reading	3	Female	25920	565	72.6	568
		Male	27065	550	81.4	557
		Total	52986	557	77.6	562
Reading	4	Female	26474	594	63.2	600
		Male	27842	579	68.4	588
		Total	54320	586	66.3	594
Reading	5	Female	26934	619	64.3	624
		Male	28244	605	72.0	613
		Total	55182	612	68.7	618
Reading	6	Female	27425	628	65.6	633
		Male	28754	616	73.2	627
		Total	56184	622	69.8	630
Reading	7	Female	28061	644	62.3	650
		Male	29174	629	69.5	638
		Total	57236	637	66.5	644
Reading	8	Female	27816	658	59.9	664
		Male	29031	641	67.4	649
		Total	56849	649	64.4	656
Reading	9	Female	28207	668	49.9	673
		Male	29544	651	57.7	657
		Total	57754	659	54.7	665
Reading	10	Female	25475	692	52.3	697
		Male	26224	672	60.9	679
		Total	51702	682	57.7	688
Spanish Reading	3	Female	835	531	43.4	534
		Male	870	516	48.7	520
		Total	1705	523	46.8	527
Spanish Reading	4	Female	213	536	35.0	538
		Male	276	518	49.3	520.5
		Total	489	526	44.5	530
Writing	3	Female	25990	480	50.6	480
		Male	27143	464	49.4	466
		Total	53137	472	50.6	472
Writing	4	Female	26490	496	54.8	497
		Male	27845	478	52.3	480
		Total	54339	487	54.4	488
Writing	5	Female	26934	518	55.0	517
		Male	28253	497	52.6	498
		Total	55191	507	54.8	507
Writing	6	Female	27422	540	61.2	540
		Male	28773	515	62.2	517
		Total	56200	527	63.0	528

Table 8. Scale Score Descriptive Statistics for the Total Test (Continued)

Content Area	Grade	Group	N	Mean SS	SD	Median SS
Writing	7	Female	28047	566	68.4	567
		Male	29153	532	70.5	535
		Total	57201	549	71.5	551
Writing	8	Female	27791	576	69.8	576
		Male	29028	540	72.1	545
		Total	56821	557	73.2	560
Writing	9	Female	28196	584	73.9	585
		Male	29503	551	76.5	554
		Total	57703	567	77.1	570
Writing	10	Female	25454	596	76.6	598
		Male	26181	559	78.8	563
		Total	51638	577	79.9	580
Spanish Writing	3	Female	831	514	57.2	513
		Male	854	491	56.4	492
		Total	1685	503	58.0	503
Spanish Writing	4	Female	214	525	34.7	527.5
		Male	276	508	43.5	510.5
		Total	490	515	40.8	519
Mathematics	3	Female	26766	458	84.1	456
		Male	27985	462	85.4	460
		Total	54770	460	84.8	458
Mathematics	4	Female	26657	480	73.2	483
		Male	28148	483	75.7	488
		Total	54805	482	74.5	485
Mathematics	5	Female	26981	515	74.2	517
		Male	28332	518	77.8	521
		Total	55315	516	76.1	519
Mathematics	6	Female	27468	532	72.8	532
		Male	28817	533	79.5	534
		Total	56286	532	76.3	533
Mathematics	7	Female	28089	550	66.9	552
		Male	29266	550	72.0	553
		Total	57356	550	69.5	553
Mathematics	8	Female	27809	563	62.2	568
		Male	29115	563	70.3	569
		Total	56930	563	66.5	568
Mathematics	9	Female	28116	570	66.1	576
		Male	29485	568	74.5	576
		Total	57603	569	70.6	576
Mathematics	10	Female	25509	585	68.6	592
		Male	26335	585	78.0	595
		Total	51845	585	73.5	593

Table 8. Scale Score Descriptive Statistics for the Total Test (Concluded)

Content Area	Grade	Group	N	Mean SS	SD	Median SS
Science	**8**	Female	27784	500	56.9	504
		Male	29059	505	63.9	511
		Total	56844	503	60.6	508

Table 9. Scale Score Descriptive Statistics by Content Standard

		Content Standard																				
		1			2			3			4			5			6			Total		
	Grade	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
Reading	3	557	77.6	562																557	77.6	562
Reading	4	589	76.6	593							590	102.1	596	592	95.8	595	591	94.2	594	586	66.3	594
Reading	5	613	87.0	619							614	101.6	619	614	92.8	618	614	82.3	617	612	68.7	618
Reading	6	620	81.4	631							635	111.7	631	621	89.9	630	618	90.9	630	622	69.8	630
Reading	7	638	77.1	643							635	89.3	645	638	88.0	646	638	90.2	643	637	66.5	644
Reading	8	649	76.7	656							650	83.4	656	654	89.0	657	649	82.5	655	649	64.4	656
Reading	9	656	67.2	665							658	81.7	666	658	75.3	667	663	69.2	664	659	54.7	665
Reading	10	678	78.1	689							690	90.1	688	682	76.6	690	687	77.8	687	682	57.7	688
Spanish Reading	3	523	46.8	527																523	46.8	527
Spanish Reading	4	525	51.0	530							521	62.4	531	522	68.2	533	525	54.4	526	526	44.5	530
Writing	3				474	57.3	475	481	70.5	472										472	50.6	472
Writing	4				489	60.9	488	493	71.1	487										487	54.4	488
Writing	5				509	61.8	506	511	63.0	509										507	54.8	507
Writing	6				529	70.1	528	528	70.5	528										527	63.0	528
Writing	7				550	76.5	550	551	81.5	552										549	71.5	551
Writing	8				558	79.7	558	561	85.0	561										557	73.2	560
Writing	9				568	82.2	567	569	88.9	571										567	77.1	570
Writing	10				577	85.0	578	580	92.5	581										577	79.9	580
Spanish Writing	3				504	71.9	504	507	65.7	506										503	58.0	503
Spanish Writing	4				516	49.9	517	515	42.4	519										515	40.8	519
Mathematics	3	478	126.7	473	468	107.9	457				480	116.3	462				477	123.6	463	460	84.8	458
Mathematics	4	484	91.8	485	507	127.3	487	497	114.5	487	488	89.5	487				501	115.7	485	482	74.5	485
Mathematics	5	522	95.5	519	539	125.6	519	529	105.5	520	520	98.1	519				536	117.2	520	516	76.1	519
Mathematics	6	532	96.9	533	539	95.1	538	535	93.0	535	533	94.1	534				539	112.6	532	532	76.3	533
Mathematics	7	551	78.4	553	556	91.0	554	544	88.5	553	544	88.6	554							550	69.5	553
Mathematics	8	555	89.1	568	562	77.6	568	562	86.6	571	560	79.4	568							563	66.5	568
Mathematics	9	560	95.2	575	569	76.7	577	565	82.5	575	562	88.2	576							569	70.6	576
Mathematics	10	579	92.6	592	581	83.5	593	585	83.5	594	564	107.9	592							585	73.5	593
Science	8	505	69.8	508	499	76.5	506	502	73.9	509	502	70.9	508	514	93.1	509				503	60.6	508

Table 10. Scale Score Descriptive Statistics by Sub-Content Area

		Sub-Content Area																								Total		
		1			2			3			4			5			6			7			8					
	Grade	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
Reading	3	559	87.1	563	561	103.0	562	592	136.8	559																557	77.6	562
Reading	4	586	73.3	594	601	140.4	596	619	135.7	592																586	66.3	594
Reading	5	613	78.7	619	612	88.1	618	614	146.2	622																612	68.7	618
Reading	6	622	88.0	629	620	79.6	631	631	132.5	632																622	69.8	630
Reading	7	644	94.5	645	621	117.1	643	661	130.5	646	632	95.5	644													637	66.5	644
Reading	8	650	80.3	657	647	104.8	656	667	135.8	660	645	90.3	656													649	64.4	656
Reading	9	658	70.0	665	657	71.9	665	676	113.6	668	665	93.2	664													659	54.7	665
Reading	10	689	89.1	689	683	71.8	688	685	109.6	690	680	96.6	687													682	57.7	688
Spanish Reading	3	523	50.5	527	536	80.6	531	527	74.8	528																523	46.8	527
Spanish Reading	4	523	51.3	531	522	59.5	533	528	88.8	526																526	44.5	530
Writing	3													476	62.9	474				496	97.8	473	496	95.7	471	472	50.6	472
Writing	4													494	74.3	486	504	98.6	516	511	101.9	489	499	96.8	490	487	54.4	488
Writing	5													512	70.5	509	543	130.2	525	515	76.2	511	514	84.6	510	507	54.8	507
Writing	6													532	82.8	527	536	106.2	496	526	80.1	529	532	102.7	529	527	63.0	528
Writing	7													551	90.2	546	552	113.6	503	550	95.8	553	555	97.8	553	549	71.5	551
Writing	8													559	87.4	557	572	127.7	558	559	96.7	561	589	144.2	562	557	73.2	560
Writing	9													569	96.1	569	576	104.9	524	569	108.0	572	569	110.1	571	567	77.1	570
Writing	10													580	97.5	576	582	111.0	529	583	105.3	583	579	118.8	583	577	79.9	580
Spanish Writing	3													524	103.5	509				516	80.0	515	508	83.6	507	503	58.0	503
Spanish Writing	4													509	76.3	520	517	64.2	506	516	53.6	518	505	73.1	516	515	40.8	519
Mathematics	3																									460	84.8	458
Mathematics	4	486	90.2	486	506	128.1	484	498	113.7	488																482	74.5	485
Mathematics	5	522	93.5	519	554	144.4	520	547	134.9	519																516	76.1	519
Mathematics	6	534	93.1	531	541	99.1	536	529	113.8	533																532	76.3	533
Mathematics	7	552	109.9	552	527	120.8	554																			550	69.5	553
Mathematics	8	560	82.5	566	557	90.3	568	556	90.8	568																563	66.5	568
Mathematics	9	567	80.3	577	561	92.0	573																			569	70.6	576
Mathematics	10	586	86.3	596	579	103.1	594																			585	73.5	593
Science	8	514	102.9	504	518	95.1	508	498	92.0	503	501	87.2	510	502	72.1	508										503	60.6	508

Table 11. Raw Score Descriptive Statistics by Content Standard

		Content Standard																											
		1				2				3				4				5				6				Total			
Content	Grade	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.
Reading	3	36	10.1	39	68.8																					36	10.1	39	68.8
Reading	4	25	6.7	26	69.3									12	4.3	12	61.5	12	3.5	12	68.3	12	3.7	12	63.9	60	16.6	63	66.4
Reading	5	19	5.5	20	66.1									13	3.7	14	65.3	12	4.3	13	62.0	13	4.1	14	63.7	58	15.8	61	64.5
Reading	6	17	5.9	17	55.4									14	4.0	15	72.2	11	4.0	11	56.0	11	4.1	11	50.1	51	16.2	54	57.9
Reading	7	18	6.1	19	60.4									12	4.0	13	62.3	12	4.1	13	61.3	12	4.1	13	60.7	55	16.6	57	61.1
Reading	8	17	6.2	18	59.7									14	4.7	15	62.9	12	3.7	12	65.0	13	4.3	13	57.0	56	17.3	58	60.9
Reading	9	18	7.4	19	53.3									12	4.3	13	62.0	12	3.9	12	58.4	13	4.3	14	62.2	55	18.2	58	58.8
Reading	10	17	6.9	18	54.5									15	4.8	16	71.1	11	3.6	12	60.2	14	4.8	15	63.6	58	18.5	61	61.5
Spanish Reading	3	30	9.3	31	60.4																					30	9.3	31	60.4
Spanish Reading	4	22	7.3	23	61.1									9	3.7	10	52.5	8	3.5	8	38.3	8	3.4	8	49.0	47	16.0	49	52.2
Writing	3					18	3.5	19	74.6	26	4.8	28	82.7													44	7.9	46	79.2
Writing	4					26	5.6	27	72.2	26	5.5	27	78.7													52	10.5	54	75.3
Writing	5					24	5.6	24	67.7	25	5.6	26	72.7													48	10.5	50	70.3
Writing	6					23	5.5	24	64.5	20	5.8	21	61.0													43	10.6	44	62.8
Writing	7					22	5.4	23	62.9	20	5.6	21	61.8													42	10.3	43	62.3
Writing	8					23	5.4	24	65.7	21	5.8	22	65.2													44	10.6	46	65.4
Writing	9					23	5.5	24	65.9	21	6.6	21	60.6													44	11.4	45	63.3
Writing	10					24	5.7	24	65.5	21	6.1	22	65.1													45	11.2	47	65.3
Spanish Writing	3					12	3.7	13	64.1	27	6.0	29	74.2													40	8.9	41	70.8
Spanish Writing	4					16	5.1	16	52.3	21	6.3	21	54.7													37	10.4	37	53.7
Mathematics	3	7	2.0	8	74.9	10	2.4	10	74.6					14	2.9	14	80.1					7	2.3	8	72.1	38	8.2	40	76.0
Mathematics	4	13	3.7	13	65.6	10	3.0	11	73.1	10	2.8	11	72.7	21	5.2	22	71.5					15	3.5	16	77.6	69	16.4	72	71.9
Mathematics	5	13	3.6	14	70.2	14	4.3	16	75.2	14	4.1	15	72.6	13	4.5	14	63.7					14	3.5	15	77.2	69	18.0	73	71.6
Mathematics	6	9	3.9	9	54.9	12	3.2	12	68.3	11	3.9	11	60.2	13	4.6	13	59.1					8	3.1	8	59.6	52	16.6	53	60.4
Mathematics	7	13	5.9	13	51.5	10	3.7	10	59.6	9	3.8	8	47.6	11	5.8	11	44.3									44	17.8	42	50.1
Mathematics	8	9	4.9	8	40.5	11	4.5	11	50.6	9	4.1	9	52.4	13	5.5	12	48.5									41	17.6	40	47.7
Mathematics	9	6	3.5	5	35.9	12	5.5	11	45.1	9	4.2	8	39.7	8	3.9	8	37.4									34	15.7	32	40.0
Mathematics	10	7	3.5	6	41.5	11	6.0	10	41.7	10	4.2	10	44.9	6	4.0	5	28.1									34	16.1	31	39.0
Science	8	20	6.3	21	65.9	8	3.6	8	43.5	10	3.2	10	52.1	10	3.7	10	46.5	7	2.0	7	65.9					55	16.5	56	54.9

Table 12. Raw Score Descriptive Statistics by Sub-Content Area

		Sub-Content Area																Total			
		1				2				3				4							
Content	Grade	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.
Reading	3	19	5.9	20	66.8	10	3.1	10	66.0	8	2.2	8	78.0					36	10.1	39	68.8
Reading	4	31	9.5	32	62.3	7	2.3	7	67.3	11	2.6	12	77.9					60	16.6	63	66.4
Reading	5	23	6.4	24	67.5	16	4.7	17	63.2	6	2.2	6	62.7					58	15.8	61	64.5
Reading	6	11	3.7	11	55.3	23	7.4	24	58.5	8	2.8	8	62.8					51	16.2	54	57.9
Reading	7	16	4.7	17	71.3	9	3.9	9	50.8	7	2.4	8	68.3	11	4.0	11	54.6	55	16.6	57	61.1
Reading	8	20	6.1	21	66.3	10	4.5	11	57.1	5	1.8	5	63.5	9	3.6	9	50.2	56	17.3	58	60.9
Reading	9	13	5.2	13	53.3	15	6.1	16	57.2	7	2.1	7	66.1	9	3.1	9	62.4	55	18.2	58	58.8
Reading	10	15	5.2	17	69.6	15	5.8	16	59.5	6	2.1	6	60.7	10	4.2	10	56.1	58	18.5	61	61.5
Spanish Reading	3	15	5.8	16	54.8	8	2.5	9	70.7	6	2.1	7	63.8					30	9.3	31	60.4
Spanish Reading	4	20	7.1	21	56.8	15	5.6	15	54.1	5	1.7	5	59.4					47	16.0	49	52.2

		Sub-Content Area																Total			
		5				6				7				8							
Content	Grade	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.
Writing	3	14	2.9	15	75.8					10	2.3	11	79.4	14	2.5	14	84.7	44	7.9	46	79.2
Writing	4	13	3.3	14	70.2	8	1.9	9	74.1	15	3.0	15	81.5	9	2.7	10	73.0	52	10.5	54	75.3
Writing	5	15	3.7	15	68.2	8	2.1	9	74.6	14	3.2	15	73.2	10	3.1	11	67.6	48	10.5	50	70.3
Writing	6	11	3.1	11	62.2	8	1.6	7	69.0	15	4.5	16	61.5	8	2.9	8	60.0	43	10.6	44	62.8
Writing	7	9	2.7	9	57.9	8	1.6	7	69.1	12	3.5	12	58.8	12	4.0	13	65.3	42	10.3	43	62.3
Writing	8	12	3.4	13	62.2	8	1.7	8	71.9	13	4.2	14	59.8	8	2.3	9	73.4	44	10.6	46	65.4
Writing	9	13	3.5	13	64.1	8	1.5	7	68.8	14	4.8	14	62.0	7	2.6	8	57.4	44	11.4	45	63.3
Writing	10	13	3.6	13	64.4	8	1.5	7	69.3	14	4.2	14	65.3	8	3.0	9	60.2	45	11.2	47	65.3
Spanish Writing	3	11	3.3	12	74.1					14	3.2	15	74.1	12	3.5	12	67.9	40	8.9	41	70.8
Spanish Writing	4	6	3.2	6	43.0	7	2.0	7	60.7	15	4.6	15	59.6	5	2.5	5	43.1	37	10.4	37	53.7

Table 12. Raw Score Descriptive Statistics by Sub-Content Area (Continued)

		Sub-Content Area																							
		1				2				3				4				5				Total			
Content	Grade	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.	Mean	SD	Median	Mean % of Max.
Mathematics	3																					38	8.2	40	76.0
Mathematics	4	15	4.3	15	66.3	9	2.9	10	72.0	7	1.8	7	71.6									69	16.4	72	71.9
Mathematics	5	15	4.1	15	69.5	11	3.2	12	76.9	8	2.6	8	71.9									69	18.0	73	71.6
Mathematics	6	12	5.2	11	54.5	10	2.9	11	69.4	8	3.3	8	56.7									52	16.6	53	60.4
Mathematics	7	6	3.4	6	51.2	4	3.0	3	31.6													44	17.8	42	50.1
Mathematics	8	6	3.1	5	42.9	8	4.3	7	40.2	5	2.5	5	43.2									41	17.6	40	47.7
Mathematics	9	9	4.7	9	42.6	5	3.3	4	31.1													34	15.7	32	40.0
Mathematics	10	7	3.5	7	48.2	4	2.3	4	39.2													34	16.1	31	39.0
Science	8	6	2.4	6	62.4	13	3.7	14	71.6	4	2.3	4	40.5	4	1.8	4	46.8	7	3.2	7	43.3	55	16.5	56	54.9

Table 13. Reading Scale Score Correlations by Content Standard and Sub-Content Area

Grade 3 Reading

	SA 1/4	SA 2	SA 3	Total
CS 1	0.915	0.812	0.766	1.000
SA 1/4		0.673	0.630	0.915
SA 2			0.561	0.812
SA 3				0.766

Grade 3 Spanish Reading

	SA 1/4	SA 2	SA 3	Total
CS 1	0.953	0.724	0.744	1.000
SA 1/4		0.607	0.631	0.953
SA 2			0.515	0.724
SA 3				0.744

Grade 4 Reading

	CS 4	CS 5	CS 6	SA 1/4	SA 2	SA 3	Total
CS 1	0.696	0.697	0.709	0.880	0.677	0.738	0.922
CS 4		0.603	0.629	0.804	0.680	0.543	0.813
CS 5			0.613	0.703	0.562	0.550	0.809
CS 6				0.854	0.552	0.568	0.823
SA 1/4					0.641	0.623	0.951
SA 2						0.495	0.726
SA 3							0.714

Grade 4 Spanish Reading

	CS 4	CS 5	CS 6	SA 1/4	SA 2	SA 3	Total
CS 1	0.742	0.639	0.711	0.858	0.771	0.657	0.900
CS 4		0.656	0.649	0.848	0.692	0.558	0.851
CS 5			0.583	0.661	0.612	0.474	0.780
CS 6				0.807	0.655	0.621	0.826
SA 1/4					0.671	0.597	0.928
SA 2						0.488	0.811
SA 3							0.661

Grade 5 Reading

	CS 4	CS 5	CS 6	SA 1/4	SA 2	SA 3	Total
CS 1	0.689	0.708	0.730	0.783	0.832	0.748	0.884
CS 4		0.640	0.667	0.767	0.795	0.567	0.811
CS 5			0.696	0.715	0.696	0.561	0.850
CS 6				0.924	0.733	0.570	0.887
SA 1/4					0.735	0.596	0.920
SA 2						0.579	0.863
SA 3							0.702

Grade 6 Reading

	CS 4	CS 5	CS 6	SA 1/4	SA 2	SA 3	Total
CS 1	0.675	0.729	0.757	0.754	0.884	0.784	0.921
CS 4		0.617	0.634	0.662	0.777	0.584	0.782
CS 5			0.686	0.665	0.733	0.599	0.845
CS 6				0.856	0.816	0.601	0.861
SA 1/4					0.733	0.602	0.838
SA 2						0.644	0.934
SA 3							0.750

Grade 7 Reading

	CS 4	CS 5	CS 6	SA 1	SA 2	SA 3	SA 4	Total
CS 1	0.746	0.735	0.721	0.722	0.781	0.772	0.734	0.921
CS 4		0.683	0.688	0.766	0.646	0.611	0.735	0.862
CS 5			0.669	0.629	0.621	0.592	0.670	0.848
CS 6				0.746	0.603	0.576	0.811	0.842
SA 1					0.568	0.568	0.627	0.810
SA 2						0.514	0.612	0.763
SA 3							0.571	0.740
SA 4								0.829

Grade 8 Reading

	CS 4	CS 5	CS 6	SA 1	SA 2	SA 3	SA 4	Total
CS 1	0.7627	0.7024	0.7428	0.7956	0.8539	0.7131	0.7111	0.9143
CS 4		0.6673	0.7241	0.8315	0.7159	0.5736	0.7480	0.8788
CS 5			0.6555	0.6522	0.6372	0.5629	0.6291	0.8175
CS 6				0.8353	0.6519	0.5642	0.7790	0.8637
SA 1					0.6608	0.5710	0.6617	0.8824
SA 2						0.5254	0.6491	0.8178
SA 3							0.5321	0.6969
SA 4								0.8093

Grade 9 Reading

	CS 4	CS 5	CS 6	SA 1	SA 2	SA 3	SA 4	Total
CS 1	0.731	0.707	0.707	0.816	0.816	0.710	0.629	0.904
CS 4		0.658	0.664	0.732	0.801	0.555	0.621	0.829
CS 5			0.648	0.663	0.668	0.583	0.575	0.816
CS 6				0.757	0.735	0.573	0.787	0.841
SA 1					0.716	0.565	0.603	0.859
SA 2						0.561	0.609	0.879
SA 3							0.497	0.698
SA 4								0.734

Grade 10 Reading

	CS 4	CS 5	CS 6	SA 1	SA 2	SA 3	SA 4	Total
CS 1	0.675	0.687	0.713	0.711	0.818	0.701	0.731	0.885
CS 4		0.620	0.646	0.695	0.761	0.542	0.629	0.796
CS 5			0.659	0.601	0.696	0.590	0.615	0.828
CS 6				0.716	0.774	0.577	0.794	0.853
SA 1					0.662	0.520	0.599	0.787
SA 2						0.601	0.682	0.896
SA 3							0.533	0.711
SA 4								0.793

Table 14. Writing Scale Score Correlations by Content Standard and Sub-Content Area

Grade 3 Writing

	CS 3	SA 5	SA 7	SA 8	Total
CS 2	0.629	0.911	0.579	0.503	0.911
CS 3		0.587	0.800	0.800	0.847
SA 5			0.497	0.461	0.846
SA 7				0.478	0.746
SA 8					0.699

Grade 3 Spanish Writing

	CS 3	SA 5	SA 7	SA 8	Total
CS 2	0.636	0.859	0.567	0.528	0.869
CS 3		0.539	0.799	0.889	0.918
SA 5			0.406	0.469	0.748
SA 7				0.567	0.771
SA 8					0.803

Grade 4 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.684	0.875	0.747	0.590	0.586	0.933
CS 3		0.600	0.481	0.817	0.833	0.869
SA 5			0.501	0.515	0.526	0.818
SA 6				0.382	0.410	0.683
SA 7					0.531	0.749
SA 8						0.749

Grade 4 Spanish Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.672	0.798	0.785	0.554	0.488	0.856
CS 3		0.506	0.532	0.896	0.670	0.949
SA 5			0.494	0.409	0.348	0.668
SA 6				0.387	0.398	0.672
SA 7					0.409	0.834
SA 8						0.640

Grade 5 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.717	0.913	0.735	0.654	0.623	0.929
CS 3		0.660	0.508	0.839	0.875	0.910
SA 5			0.506	0.591	0.576	0.850
SA 6				0.420	0.440	0.678
SA 7					0.593	0.800
SA 8						0.799

Grade 6 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.747	0.900	0.690	0.729	0.703	0.922
CS 3		0.659	0.490	0.920	0.813	0.938
SA 5			0.491	0.625	0.597	0.822
SA 6				0.427	0.419	0.616
SA 7					0.674	0.889
SA 8						0.814

Grade 7 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.762	0.877	0.727	0.707	0.758	0.943
CS 3		0.631	0.516	0.905	0.866	0.929
SA 5			0.535	0.577	0.588	0.809
SA 6				0.448	0.454	0.666
SA 7					0.702	0.850
SA 8						0.863

Grade 8 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.739	0.920	0.769	0.690	0.596	0.941
CS 3		0.680	0.515	0.939	0.743	0.913
SA 5			0.563	0.640	0.534	0.867
SA 6				0.455	0.390	0.698
SA 7					0.593	0.857
SA 8						0.710

Grade 9 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.778	0.919	0.790	0.727	0.708	0.940
CS 3		0.701	0.606	0.917	0.849	0.936
SA 5			0.596	0.656	0.624	0.857
SA 6				0.531	0.513	0.732
SA 7					0.698	0.869
SA 8						0.820

Grade 10 Writing

	CS 3	SA 5	SA 6	SA 7	SA 8	Total
CS 2	0.767	0.925	0.779	0.721	0.702	0.945
CS 3		0.696	0.580	0.933	0.847	0.927
SA 5			0.596	0.654	0.614	0.867
SA 6				0.515	0.496	0.724
SA 7					0.693	0.868
SA 8						0.817

Table 15. Mathematics Scale Score Correlations by Content Standard and Sub-Content Area

Grade 3 Mathematics

	CS 2/3	CS 4/5	CS 6	Total
CS 1	0.601	0.550	0.576	0.776
CS 2/3		0.628	0.615	0.873
CS 4/5			0.572	0.821
CS 6				0.802

Grade 4 Mathematics

	CS 2	CS 3	CS 4/5	CS 6	SA 1	SA 2	SA 3	Total
CS 1	0.645	0.661	0.704	0.673	0.920	0.655	0.591	0.883
CS 2		0.599	0.643	0.619	0.656	0.965	0.529	0.787
CS 3			0.655	0.615	0.672	0.598	0.550	0.805
CS 4/5				0.664	0.719	0.642	0.812	0.880
CS 6					0.762	0.619	0.552	0.816
SA 1						0.655	0.600	0.895
SA 2							0.530	0.785
SA 3								0.729

Grade 5 Mathematics

	CS 2	CS 3	CS 4/5	CS 6	SA 1	SA 2	SA 3	Total
CS 1	0.684	0.691	0.707	0.673	0.955	0.620	0.660	0.876
CS 2		0.660	0.663	0.643	0.695	0.869	0.665	0.824
CS 3			0.690	0.644	0.707	0.609	0.840	0.846
CS 4/5				0.646	0.722	0.611	0.650	0.865
CS 6					0.728	0.589	0.618	0.814
SA 1						0.631	0.675	0.890
SA 2							0.586	0.753
SA 3								0.795

Grade 6 Mathematics

	CS 2	CS 3	CS 4/5	CS 6	SA 1	SA 2	SA 3	Total
CS 1	0.718	0.743	0.738	0.690	0.952	0.699	0.687	0.887
CS 2		0.726	0.714	0.668	0.734	0.962	0.665	0.860
CS 3			0.740	0.683	0.758	0.707	0.684	0.888
CS 4/5				0.677	0.754	0.691	0.926	0.890
CS 6					0.778	0.648	0.635	0.820
SA 1						0.713	0.705	0.905
SA 2							0.643	0.834
SA 3								0.828

Grade 7 Mathematics

	CS 2	CS 3	CS 4/5	SA 1	SA 2	Total
CS 1/6	0.761	0.766	0.775	0.881	0.687	0.923
CS 2		0.715	0.722	0.690	0.638	0.867
CS 3			0.746	0.689	0.664	0.871
CS 4/5				0.694	0.865	0.895
SA 1					0.613	0.826
SA 2						0.791

Grade 8 Mathematics

	CS 2	CS 3	CS 4/5	SA 1	SA 2	SA 3	Total
CS 1/6	0.718	0.722	0.742	0.675	0.868	0.675	0.858
CS 2		0.747	0.768	0.939	0.718	0.696	0.894
CS 3			0.758	0.706	0.713	0.687	0.883
CS 4/5				0.728	0.754	0.893	0.911
SA 1					0.674	0.663	0.843
SA 2						0.663	0.838
SA 3							0.823

Grade 9 Mathematics

	CS 2	CS 3	CS 4/5	SA 1	SA 2	Total
CS 1/6	0.709	0.685	0.657	0.694	0.736	0.797
CS 2		0.808	0.766	0.950	0.728	0.945
CS 3			0.742	0.827	0.781	0.908
CS 4/5				0.754	0.728	0.863
SA 1					0.713	0.929
SA 2						0.821

Grade 10 Mathematics

	CS 2	CS 3	CS 4/5	SA 1	SA 2	Total
CS 1/6	0.724	0.697	0.657	0.699	0.573	0.835
CS 2		0.783	0.723	0.895	0.636	0.925
CS 3			0.703	0.831	0.817	0.902
CS 4/5				0.703	0.573	0.828
SA 1					0.625	0.896
SA 2						0.731

Table 16. Science Scale Score Correlations by Content Standard and Sub-Content Area

Grade 8 Science

	CS 2	CS 3	CS 4	CS5/6	SA 1	SA 2	SA 3	SA 4	SA 5	Total
CS 1	0.731	0.732	0.752	0.635	0.820	0.850	0.636	0.644	0.738	0.920
CS 2		0.680	0.697	0.594	0.592	0.622	0.855	0.856	0.684	0.838
CS 3			0.722	0.622	0.596	0.618	0.595	0.591	0.709	0.856
CS 4				0.651	0.612	0.636	0.615	0.606	0.982	0.883
CS 5/6					0.533	0.529	0.531	0.511	0.640	0.757
SA 1						0.583	0.523	0.518	0.605	0.750
SA 2							0.541	0.553	0.622	0.781
SA 3								0.536	0.604	0.734
SA 4									0.594	0.732
SA 5										0.867

Table 17. Cronbach Alpha Reliability Coefficients for Content Standards

		Content Standard						
		1	2	3	4	5	6	Total
Content Area	**Grade**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**
Reading	3	.89						.89
Reading	4	.85			.73	.76	.74	.93
Reading	5	.80			.72	.72	.77	.92
Reading	6	.83			.82	.68	.74	.93
Reading	7	.82			.80	.74	.73	.93
Reading	8	.84			.78	.71	.72	.93
Reading	9	.84			.74	.75	.75	.93
Reading	10	.80			.81	.74	.80	.93
Spanish Reading	3	.88						.88
Spanish Reading	4	.84			.70	.64	.60	.92
Writing	3		.79	.86				.90
Writing	4		.85	.87				.92
Writing	5		.82	.84				.90
Writing	6		.84	.83				.90
Writing	7		.84	.81				.90
Writing	8		.83	.83				.90
Writing	9		.86	.86				.92
Writing	10		.85	.85				.92
Spanish Writing	3		.79	.86				.90
Spanish Writing	4		.73	.82				.87
Mathematics	3	.56	.70		.72		.61	.89
Mathematics	4	.72	.71	.72	.77		.78	.93
Mathematics	5	.76	.79	.78	.76		.79	.94
Mathematics	6	.74	.69	.75	.79		.72	.94
Mathematics	7	.85	.77	.75	.82			.94
Mathematics	8	.81	.77	.77	.80			.94
Mathematics	9	.73	.83	.75	.71			.93
Mathematics	10	.74	.84	.73	.78			.93
Science	8	.84	.68	.65	.72	.65		.93

Table 18. Cronbach Alpha Reliability Coefficients for Sub-Content Areas

		Sub-Content Area							
		1	2	3	4	5	6	7	8
Content Area	**Grade**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**	**Alpha**
Reading	3	.83	.57	.72					
Reading	4	.87	.68	.73					
Reading	5	.84	.77	.61					
Reading	6	.73	.87	.75					
Reading	7	.82	.72	.71	.72				
Reading	8	.84	.79	.58	.62				
Reading	9	.77	.83	.62	.63				
Reading	10	.81	.81	.59	.72				
Spanish Reading	3	.82	.68	.61					
Spanish Reading	4	.86	.74	.45					
Writing	3					.80		.70	.78
Writing	4					.75	.77	.78	.74
Writing	5					.75	.68	.73	.75
Writing	6					.74	.69	.79	.72
Writing	7					.68	.70	.69	.81
Writing	8					.73	.73	.77	.70
Writing	9					.78	.74	.83	.68
Writing	10					.77	.72	.80	.70
Spanish Writing	3					.85		.74	.79
Spanish Writing	4					.58	.63	.79	.61
Mathematics	3*								
Mathematics	4	.77	.69	.52					
Mathematics	5	.79	.70	.68					
Mathematics	6	.81	.68	.73					
Mathematics	7	.75	.73						
Mathematics	8	.68	.75	.56					
Mathematics	9	.82	.72						
Mathematics	10	.74	.53						
Science	8	.63	.73	.54	.49	.71			

* No sub-content for this grade/content

Table 19. Multiple-Choice Item Analyses, Grade 3 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	1	3	0.47	0.0	0.83	23	2	1	1/4	0.29	0.1	0.53
2	1	1	1/4	0.37	0.1	0.80	24	2	1	1/4	0.45	0.2	0.67
3	1	1	1/4	0.48	0.1	0.85	25	2	1	1/4	0.44	0.2	0.67
5	1	1	2	0.32	0.2	0.72	26	2	1	3	0.49	0.1	0.62
6	1	1	2	0.19	0.4	0.39	28	2	1	2	0.36	0.1	0.89
7	1	1	2	0.50	0.1	0.86	29	2	1	2	0.42	0.1	0.74
8	1	1	3	0.49	0.4	0.77	30	2	1	2	0.12	0.3	0.27
10	1	1	1/4	0.48	0.5	0.79	31	2	1	1/4	0.48	0.2	0.66
12	1	1	1/4	0.37	0.7	0.57	32	2	1	1/4	0.50	0.3	0.82
13	1	1	1/4	0.50	1.6	0.83	33	2	1	3	0.45	0.3	0.83
14	1	1	3	0.40	1.4	0.58	35	2	1	1/4	0.50	1.1	0.89
15	1	1	3	0.50	1.4	0.70	36	2	1	1/4	0.48	0.3	0.73
17	1	1	1/4	0.45	2.9	0.72	37	2	1	1/4	0.52	0.4	0.65
18	1	1	1/4	0.51	3.2	0.59	38	2	1	1/4	0.44	0.5	0.84
19	1	1	1/4	0.54	3.3	0.80	39	2	1	3	0.57	0.4	0.78
20	1	1	1/4	0.47	3.4	0.73	40	2	1	3	0.36	0.6	0.83

Mean R_ITT: 0.43
Mean p-value: 0.72

Table 20. Constructed-Response Item Analyses, Grade 3 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	1	1	2	0.50	39.36	7.79	51.83	.	.	1.0	0.56
9	1	1	2	0.62	6.83	25.99	10.53	16.84	37.83	2.0	0.62
11	1	1	1/4	0.56	44.87	19.31	33.07	.	.	2.7	0.43
16	1	1	1/4	0.60	14.67	10.60	19.56	22.49	28.39	4.3	0.58
21	2	1	3	0.47	5.35	1.45	92.66	.	.	0.5	0.93
22	2	1	1/4	0.42	36.56	41.45	21.31	.	.	0.7	0.42
27	2	1	2	0.58	4.88	8.71	22.61	62.93	.	0.9	0.81
34	2	1	1/4	0.61	12.03	21.12	65.84	.	.	1.0	0.76

Mean R_ITT: 0.55
Mean p-value: 0.64

Table 21. Multiple-Choice Item Analyses, Grade 3 Spanish Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	1	1/4	0.37	0.2	0.47	23	1	1	1/4	0.38	7.1	0.34
2	1	1	1/4	0.19	0.2	0.29	24	2	1	1/4	0.37	0.3	0.93
3	1	1	3	0.35	0.7	0.62	25	2	1	1/4	0.40	0.1	0.63
4	1	1	3	0.15	0.9	0.17	26	2	1	1/4	0.46	0.2	0.86
6	1	1	2	0.36	0.3	0.76	27	2	1	3	0.43	0.2	0.88
7	1	1	2	0.41	0.5	0.70	30	2	1	2	0.35	0.8	0.89
8	1	1	2	0.42	0.2	0.90	31	2	1	3	0.47	0.3	0.75
10	1	1	2	0.43	2.2	0.61	32	2	1	3	0.32	0.4	0.74
11	1	1	2	0.39	0.3	0.63	34	2	1	1/4	0.54	0.7	0.79
12	1	1	3	0.38	0.3	0.87	35	2	1	3	0.42	1.1	0.68
13	1	1	1/4	0.23	0.6	0.23	36	2	1	1/4	0.45	1.1	0.65
15	1	1	1/4	0.46	0.9	0.62	37	2	1	3	0.41	1.3	0.57
16	1	1	3	0.38	1.5	0.48	38	2	1	2	0.51	0.9	0.78
17	1	1	3	0.38	2.1	0.63	39	2	1	2	0.36	1.8	0.41
18	1	1	1/4	0.46	3.2	0.46	40	2	1	2	0.42	1.4	0.71
19	1	1	1/4	0.44	3.4	0.53	41	2	1	2	0.32	1.1	0.44
22	1	1	1/4	0.30	6.9	0.45							

Mean R_ITT: 0.39
Mean p-value: 0.62

Table 22. Constructed-Response Item Analyses, Grade 3 Spanish Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
5	1	1	1/4	0.44	12.60	40.42	46.51	.	.	0.5	0.67
9	1	1	2	0.58	13.59	6.33	79.32	.	.	0.8	0.82
14	1	1	1/4	0.61	24.96	29.35	44.29	.	.	1.4	0.59
20	1	1	1/4	0.68	34.27	29.99	30.17	.	.	5.6	0.45
21	1	1	1/4	0.64	34.27	19.33	23.96	14.88	.	7.6	0.37
28	2	1	1/4	0.52	8.67	26.54	64.44	.	.	0.4	0.78
29	2	1	1/4	0.50	41.77	30.52	27.01	.	.	0.7	0.42
33	2	1	1/4	0.59	21.97	37.55	39.54	.	.	0.9	0.58

Mean R_ITT: 0.57
Mean p-value: 0.59

Table 23. Multiple-Choice Item Analyses, Grade 3 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
2	1	2		0.35	0.1	0.70	21	2	3	8	0.47	0.0	0.88
3	1	2		0.51	0.1	0.74	22	2	3	8	0.30	0.1	0.97
4	1	2		0.32	0.3	0.71	23	2	3	8	0.46	0.3	0.93
5	1	3	7	0.38	0.3	0.92	24	2	3	8	0.47	0.2	0.94
6	1	3	7	0.49	0.4	0.86	25	2	3	8	0.43	0.3	0.86
7	1	3	7	0.40	0.6	0.86	26	2	3	8	0.47	0.6	0.92
8	1	3	7	0.47	0.2	0.78	27	2	2	5	0.45	0.0	0.79
9	1	3	7	0.49	0.3	0.86	28	2	2	5	0.36	0.1	0.84
10	1	3	7	0.43	0.6	0.57	30	2	3	8	0.42	0.0	0.89
11	1	2		0.35	0.3	0.81	31	2	3	8	0.42	0.1	0.93
12	1	3	7	0.35	0.2	0.84	32	2	3	8	0.43	0.2	0.93
14	1	2	5	0.48	0.1	0.72	33	2	3	8	0.46	0.3	0.91
15	1	2		0.51	0.2	0.69	34	2	3	8	0.42	0.4	0.92
16	1	2	5	0.42	0.1	0.67	35	2	3	7	0.43	0.1	0.76
17	1	2		0.37	0.3	0.93	36	2	2		0.31	0.2	0.55
18	1	2		0.28	0.1	0.98	37	2	3	8	0.43	0.2	0.65
19	1	3	7	0.48	0.2	0.85	38	2	3	8	0.55	0.4	0.78
20	1	3	7	0.43	0.5	0.94							

Mean R_ITT: 0.42
Mean p-value: 0.83

Table 24. Constructed-Response Item Analyses, Grade 3 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1	A	1	3	8	0.38	14.10	85.79	.	.	.	0.1	0.86
1	B	1	3	8	0.40	67.77	32.14	.	.	.	0.1	0.32
1	C	1	3	7	0.37	41.36	58.54	.	.	.	0.1	0.59
1	D	1	3	7	0.46	25.08	74.83	.	.	.	0.1	0.75
1	E	1	3	7	0.18	28.01	71.89	.	.	.	0.1	0.72
1	F	1	3	8	0.21	15.87	84.03	.	.	.	0.1	0.84
13	A	1	2	5	0.41	4.13	77.80	17.95	.	.	0.1	0.57
13	B	1	2	5	0.38	2.89	97.00	.	.	.	0.1	0.97
13	C	1	2	5	0.47	12.79	87.10	.	.	.	0.1	0.87
13	D	1	3	5	0.42	3.94	95.94	.	.	.	0.1	0.96
29	A	2	2	5	0.43	3.10	79.96	16.72	.	.	0.2	0.57
29	B	2	2	5	0.40	3.91	95.87	.	.	.	0.2	0.96
29	C	2	2	5	0.52	15.35	84.43	.	.	.	0.2	0.84
29	D	2	3	5	0.52	16.70	83.08	.	.	.	0.2	0.83
39	A	2	2	5	0.41	2.70	85.74	11.25	.	.	0.3	0.54
39	B	2	2	5	0.40	4.02	95.68	.	.	.	0.3	0.96
39	C	2	2	5	0.51	17.89	81.81	.	.	.	0.3	0.82
39	D	2	3	5	0.53	18.16	81.55	.	.	.	0.3	0.82

Mean R_ITT: 0.41
Mean p-value: 0.77

Table 25. Multiple-Choice Item Analyses, Grade 3 Spanish Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	3	7	0.37	0.2	0.91	21	1	2		0.37	0.4	0.79
2	1	3	7	0.47	0.3	0.81	22	2	3	8	0.27	0.2	0.44
3	1	3	7	0.29	0.9	0.93	23	2	3	8	0.45	0.1	0.83
4	1	3	7	0.41	0.3	0.68	24	2	3	8	0.33	0.2	0.56
5	1	3	8	0.44	0.4	0.86	25	2	3	8	0.29	0.2	0.73
6	1	3	8	0.37	1.2	0.79	26	2	3	7	0.37	0.2	0.93
8	1	3	7	0.39	0.1	0.66	27	2	3	7	0.41	0.5	0.73
9	1	3	7	0.43	0.2	0.60	28	2	3	7	0.39	0.9	0.88
10	1	3	7	0.36	0.1	0.73	29	2	3	8	0.47	0.2	0.78
11	1	3	7	0.33	0.4	0.95	30	2	3	8	0.39	0.7	0.84
12	1	3	7	0.31	0.6	0.96	32	2	3	7	0.39	0.2	0.88
14	1	3	8	0.42	0.1	0.42	33	2	3	7	0.36	0.4	0.58
15	1	3	8	0.53	0.1	0.71	34	2	3	7	0.38	1.1	0.65
16	1	3	8	0.42	0.6	0.63	35	2	2	7	0.38	1.1	0.77
17	1	3	8	0.46	0.6	0.74	36	2	2	7	0.15	0.9	0.19
18	1	3	8	0.48	0.5	0.68	37	2	2		0.36	0.2	0.94
19	1	2		0.24	0.2	0.24	38	2	2		0.42	0.2	0.58
20	1	2		0.21	0.2	0.34							

Mean R_ITT: 0.37
Mean p-value: 0.71

Table 26. Constructed-Response Item Analyses, Grade 3 Spanish Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
7	A	1	3	8	0.39	17.98	81.37	.	.	.	0.7	0.81
7	B	1	3	8	0.44	11.57	87.77	.	.	.	0.7	0.88
7	C	1	3	8	0.36	69.91	29.44	.	.	.	0.7	0.29
7	D	1	3	7	0.28	32.05	67.30	.	.	.	0.7	0.67
7	E	1	3	8	0.48	44.10	55.25	.	.	.	0.7	0.55
7	F	1	3	7	0.34	44.69	54.66	.	.	.	0.7	0.55
13	A	1	2	5	0.50	7.42	51.69	40.59	.	.	0.3	0.66
13	B	1	2	5	0.48	29.38	70.33	.	.	.	0.3	0.70
13	C	1	2	5	0.48	22.73	76.97	.	.	.	0.3	0.77
13	D	1	3	5	0.35	6.35	93.35	.	.	.	0.3	0.93
31	A	2	2	5	0.55	4.45	54.30	40.95	.	.	0.3	0.68
31	B	2	2	5	0.48	25.88	73.83	.	.	.	0.3	0.74
31	C	2	2	5	0.54	22.73	76.97	.	.	.	0.3	0.77
31	D	2	3	5	0.42	4.99	94.72	.	.	.	0.3	0.95
39	A	2	2	5	0.55	7.54	57.98	33.83	.	.	0.7	0.63
39	B	2	2	5	0.53	27.72	71.63	.	.	.	0.7	0.72
39	C	2	2	5	0.55	31.04	68.31	.	.	.	0.7	0.68
39	D	2	3	5	0.46	8.25	91.10	.	.	.	0.7	0.91

Mean R_ITT: 0.45
Mean p-value: 0.72

Table 27. Multiple-Choice Item Analyses, Grade 3 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	4/5		0.37	5.6	0.88	21	2	4/5		0.34	0.1	0.79
2	1	1		0.36	0.1	0.95	22	2	6		0.45	0.2	0.69
3	1	2/3		0.40	2.0	0.87	23	2	6		0.43	3.4	0.65
4	1	1		0.44	0.5	0.70	25	2	4/5		0.40	0.6	0.76
6	1	2/3		0.62	0.3	0.65	26	2	4/5		0.36	0.2	0.95
7	1	2/3		0.20	0.0	0.99	27	2	6		0.39	0.3	0.94
8	1	1		0.19	0.1	0.98	28	2	2/3		0.26	0.1	0.96
9	1	2/3		0.25	0.1	0.97	29	2	1		0.36	0.1	0.94
11	1	4/5		0.34	0.2	0.89	30	2	6		0.43	0.6	0.60
12	1	6		0.32	0.3	0.96	32	2	1		0.46	0.2	0.82
13	1	4/5		0.46	0.2	0.73	33	2	4/5		0.41	0.2	0.87
15	1	4/5		0.50	0.8	0.79	34	2	4/5		0.23	0.3	0.98
16	1	1		0.41	0.4	0.88	35	2	2/3		0.38	0.1	0.90
17	1	4/5		0.40	0.6	0.63	37	2	2/3		0.56	0.1	0.84
18	1	2/3		0.45	0.3	0.36	38	2	4/5		0.42	0.1	0.92
19	1	2/3		0.48	0.2	0.79	39	2	4/5		0.47	0.2	0.79

Mean R_ITT: 0.39
Mean p-value: 0.83

Table 28. Constructed-Response Item Analyses, Grade 3 Mathematics

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
5		1	1		0.57	56.71	11.33	31.81	.	.	0.1	0.37
10		1	1		0.55	14.32	23.71	61.77	.	.	0.2	0.74
14		1	2/3		0.65	31.77	36.62	25.42	.	.	6.2	0.44
20		1	4/5		0.59	2.18	26.66	29.15	41.76	.	0.3	0.70
24		2	6		0.58	5.97	45.87	48.06	.	.	0.1	0.71
31		2	2/3		0.53	7.03	37.06	55.84	.	.	0.1	0.74
36		2	4/5		0.53	7.26	31.79	60.38	.	.	0.6	0.76
40		2	6		0.69	17.56	15.00	20.66	46.65	.	0.1	0.65

Mean R_ITT: 0.59
Mean p-value:0.64

Table 29. Multiple-Choice Item Analyses, Grade 4 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
4	3	1	3	0.31	0.1	0.85	40	4	4	2	0.52	0.2	0.72
5	3	1	1/4	0.44	0.2	0.65	41	4	4	2	0.47	0.4	0.73
6	3	6	1/4	0.41	0.1	0.65	42	4	4	2	0.37	0.9	0.45
7	3	6	3	0.19	0.2	0.44	43	4	4	2	0.37	0.6	0.72
8	3	4	1/4	0.49	0.6	0.70	45	4	5		0.33	0.4	0.72
9	3	1	1/4	0.38	0.9	0.46	46	4	5		0.43	0.4	0.85
10	3	5		0.41	1.1	0.85	48	4	1	1/4	0.38	1.1	0.44
11	3	1	1/4	0.45	0.2	0.88	49	4	1	3	0.47	1.3	0.69
13	3	1	1/4	0.36	0.1	0.65	93	6	4	1/4	0.45	0.5	0.82
14	3	1	1/4	0.42	0.6	0.90	96	6	1	1/4	0.32	0.1	0.75
15	3	1	3	0.48	0.5	0.67	97	6	6	1/4	0.28	0.2	0.68
16	3	1	3	0.49	0.8	0.76	98	6	1	3	0.40	0.2	0.81
21	3	4	1/4	0.49	0.8	0.66	99	6	6	1/4	0.39	0.2	0.92
22	3	6	3	0.51	0.9	0.92	100	6	5		0.44	0.5	0.57
23	3	1	3	0.52	1.1	0.77	101	6	5		0.48	0.6	0.87
24	3	1	1/4	0.44	1.1	0.48	102	6	4	2	0.45	0.3	0.60
25	3	1	1/4	0.29	1.3	0.56	103	6	4	2	0.53	0.5	0.73
26	3	1	1/4	0.49	1.3	0.87	105	6	1	2	0.30	1.0	0.45
27	3	5		0.45	2.0	0.62	106	6	1	3	0.42	0.2	0.52
30	4	1	1/4	0.30	0.1	0.59	107	6	5		0.48	0.2	0.71
31	4	1	1/4	0.45	0.2	0.79	108	6	5		0.09	0.4	0.13
32	4	1	1/4	0.47	0.2	0.79	109	6	1	2	0.45	5.2	0.60
33	4	1	3	0.51	0.2	0.75	110	6	5		0.43	0.2	0.58
34	4	4	1/4	0.27	0.1	0.48	111	6	5		0.41	0.3	0.69
35	4	4	1/4	0.40	0.2	0.73	113	6	1	3	0.46	0.4	0.89
36	4	6	1/4	0.50	0.3	0.69	114	6	1	3	0.41	0.5	0.90
37	4	6	1/4	0.41	0.5	0.85	115	6	5		0.51	0.6	0.79
38	4	4	1/4	0.27	0.4	0.34	116	6	5		0.45	0.6	0.82

Mean R_ITT: 0.41
Mean p-value: 0.69

Table 30. Constructed-Response Item Analyses, Grade 4 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
12	3	1	1/4	0.60	27.29	17.16	54.36	.	.	1.2	0.63
17	3	4	1/4	0.50	42.60	0.36	31.34	25.28	.	0.4	0.46
18	3	6	1/4	0.47	60.19	16.03	9.62	11.94	.	2.2	0.24
19	3	6	1/4	0.55	20.94	31.34	45.91	.	.	1.8	0.62
20	3	6	1/4	0.66	12.21	19.63	65.37	.	.	2.8	0.75
28	4	1	3	0.38	3.15	1.05	95.47	.	.	0.3	0.96
29	4	1	1/4	0.39	30.13	47.08	21.99	.	.	0.8	0.46
39	4	1	1/4	0.57	19.39	26.47	16.25	35.69	.	2.2	0.55
44	4	5		0.54	33.52	34.46	28.20	.	.	3.8	0.45
47	4	4	1/4	0.64	7.64	9.97	29.51	13.77	37.96	1.1	0.66
94	6	6	1/4	0.65	9.92	21.17	68.51	.	.	0.4	0.79
95	6	6	1/4	0.57	9.44	46.43	43.12	.	.	1.0	0.66
104	6	5		0.63	6.38	5.41	11.68	73.32	.	3.2	0.83
112	6	1	2	0.52	8.92	7.24	82.77	.	.	1.1	0.86

Mean R_ITT: 0.55
Mean p-value: 0.64

Table 31. Multiple-Choice Item Analyses, Grade 4 Spanish Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
4	3	1	2	0.44	0.0	0.43	41	4	1	1/4	0.35	2.7	0.31
5	3	1	3	0.03	0.0	0.49	42	4	6	3	0.37	3.1	0.75
6	3	6	2	0.26	0.0	0.64	43	4	6	1/4	0.37	2.9	0.46
7	3	5		0.36	0.0	0.37	44	4	1	1/4	0.11	4.7	0.19
8	3	5		0.32	0.0	0.44	45	4	6	1/4	0.46	3.7	0.81
9	3	1	2	0.49	0.6	0.66	46	4	1	1/4	0.50	3.7	0.67
10	3	1	2	0.39	0.6	0.58	47	4	1	1/4	0.54	4.3	0.61
12	3	4	2	0.28	0.0	0.61	48	4	4	1/4	0.38	4.1	0.39
14	3	4	2	0.37	0.2	0.51	92	6	1	2	0.31	0.0	0.86
16	3	4	1/4	0.33	0.6	0.67	93	6	1	3	0.38	0.0	0.68
17	3	1	1/4	0.43	1.0	0.66	94	6	1	3	0.43	0.0	0.49
18	3	4	1/4	0.31	1.2	0.76	95	6	1	2	0.27	0.0	0.74
19	3	1	1/4	0.44	1.4	0.72	96	6	1	2	0.47	0.4	0.78
20	3	6	1/4	0.27	1.4	0.92	97	6	1	2	0.42	0.0	0.55
21	3	1	1/4	0.21	1.8	0.51	98	6	1	1/4	0.44	0.2	0.81
22	3	1	1/4	0.45	1.2	0.57	99	6	1	1/4	0.51	0.2	0.89
23	3	1	1/4	0.40	1.2	0.51	100	6	4	1/4	0.24	0.4	0.45
24	3	6	1/4	0.33	1.4	0.53	102	6	1	1/4	0.47	0.4	0.63
25	4	1	2	0.29	0.0	0.57	104	6	5		0.32	0.8	0.32
26	4	1	3	0.43	0.2	0.75	105	6	5		0.44	0.2	0.53
27	4	4	2	0.35	0.0	0.63	106	6	5		0.38	0.4	0.52
29	4	4	2	0.31	1.0	0.42	107	6	5		0.11	0.6	0.10
30	4	1	2	0.42	0.0	0.66	108	6	1	3	0.38	0.6	0.71
32	4	4	2	0.28	1.2	0.31	109	6	1	3	0.21	0.4	0.33
34	4	1	1/4	0.50	0.8	0.76	110	6	5		0.41	1.0	0.59
35	4	6	3	0.41	1.0	0.54	111	6	5		0.24	1.0	0.31
36	4	1	1/4	0.51	1.8	0.67	112	6	4	2	0.41	1.0	0.59
37	4	4	1/4	0.42	2.0	0.54	113	6	6	2	0.03	1.0	0.49

Mean R_ITT: 0.36
Mean p-value: 0.57

Table 32. Constructed-Response Item Analyses, Grade 4 Spanish Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
11	3	1	2	0.68	19.22	7.57	4.29	7.36	60.12	1.4	0.70
13	3	5		0.16	69.53	17.38	5.52	6.14	.	1.4	0.16
15	3	5		0.62	39.88	25.56	33.33	.	.	1.2	0.46
28	4	5		0.66	10.22	10.22	13.70	65.64	.	0.2	0.78
31	4	4	2	0.54	64.83	15.95	18.00	.	.	1.2	0.26
33	4	6	1/4	0.49	43.76	25.97	20.25	8.18	.	1.8	0.30
38	4	6	1/4	0.60	20.45	51.12	25.77	.	.	2.7	0.51
39	4	4	1/4	0.55	50.31	46.42	.	.	.	3.3	0.46
40	4	1	1/4	0.62	19.43	30.67	28.22	18.40	.	3.3	0.47
101	6	4	1/4	0.47	9.82	34.76	55.21	.	.	0.2	0.73
103	6	4	1/4	0.50	38.45	7.57	53.17	.	.	0.8	0.57
114	6	6	2	0.59	48.67	10.63	10.84	18.61	9.00	2.2	0.31
115	6	5		0.32	68.71	15.34	14.11	.	.	1.8	0.22
116	6	5		0.20	72.39	19.43	5.73	.	.	2.5	0.15

Mean R_ITT: 0.50
Mean p-value: 0.43

Table 33. Multiple-Choice Item Analyses, Grade 4 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
51	5	3	7	0.34	0.2	0.83	72	5	2	5	0.44	0.2	0.86
52	5	3	7	0.33	0.1	0.97	73	5	2	5	0.50	0.2	0.89
53	5	2		0.35	0.3	0.96	74	5	2	5	0.51	0.4	0.73
54	5	2		0.37	0.7	0.78	75	5	2	5	0.53	0.5	0.81
55	5	2		0.49	0.8	0.83	76	5	2		0.37	0.5	0.59
56	5	2		0.38	1.2	0.74	77	5	3	8	0.49	0.4	0.80
57	5	3	7	0.44	0.1	0.91	78	5	3	7	0.49	0.4	0.88
58	5	3	7	0.44	0.1	0.90	79	5	3	7	0.35	0.6	0.43
59	5	2		0.54	0.2	0.84	80	5	3	7	0.43	0.6	0.59
60	5	3	7	0.37	0.6	0.96	81	5	3	7	0.51	1.0	0.75
61	5	3	8	0.37	0.1	0.74	82	5	3	7	0.51	1.6	0.81
62	5	3	8	0.41	0.3	0.83	83	5	3	8	0.47	0.3	0.91
63	5	3	8	0.39	0.5	0.65	84	5	3	8	0.50	0.3	0.88
64	5	3	8	0.53	0.9	0.79	85	5	3	8	0.42	0.4	0.57
66	5	2	5	0.45	0.2	0.77	86	5	3	8	0.43	3.9	0.56
67	5	3	7	0.38	0.2	0.68	87	5	3	7	0.44	0.4	0.79
68	5	2	5	0.38	0.3	0.57	88	5	3	7	0.46	0.6	0.78
69	5	3	7	0.45	0.3	0.87	89	5	3	7	0.39	1.1	0.92
70	5	2		0.51	0.3	0.80	90	5	2		0.50	1.0	0.77
71	5	2	5	0.49	0.3	0.76	91	5	3	7	0.43	0.8	0.86

Mean R_ITT: 0.44
Mean p-value: 0.78

Table 34. Constructed-Response Item Analyses, Grade 4 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.20	6.01	93.99	.	.	.	0.0	0.94
2	A	2	3	7	0.37	20.56	78.49	.	.	.	1.0	0.78
2	B	2	3	8	0.48	16.02	83.02	.	.	.	1.0	0.83
2	C	2	3	8	0.22	6.35	92.70	.	.	.	1.0	0.93
2	D	2	3	8	0.40	31.29	67.76	.	.	.	1.0	0.68
2	E	2	3	7	0.28	3.72	95.32	.	.	.	1.0	0.95
2	F	2	3	8	0.43	65.84	33.20	.	.	.	1.0	0.33
3	A	2	2	6	0.65	1.61	3.70	28.77	51.99	13.83	0.1	0.68
3	B	2	2	6	0.67	0.58	4.66	31.84	49.01	13.82	0.1	0.68
3	C	2	3	6	0.59	0.84	22.74	76.34	.	.	0.1	0.88
50		4	2	5	0.58	0.92	5.51	31.14	45.17	14.70	2.6	0.66
65		5	2	5	0.58	0.40	3.83	32.49	47.45	15.30	0.5	0.68
92		5	2	5	0.59	2.53	5.74	31.47	44.54	14.39	1.3	0.65

Mean R_ITT: 0.46
Mean p-value: 0.74

Table 35. Multiple-Choice Item Analyses, Grade 4 Spanish Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
50	5	3	7	0.38	0.0	0.62	70	5	3	7	0.37	0.4	0.41
51	5	3	7	0.38	0.2	0.85	71	5	3	7	0.42	0.4	0.61
52	5	3	7	0.35	0.6	0.82	72	5	3	7	0.36	1.2	0.48
53	5	2		0.40	0.0	0.82	73	5	3	7	0.29	1.0	0.52
54	5	2		0.37	0.0	0.45	74	5	3	7	0.28	0.6	0.63
55	5	2		0.23	0.2	0.94	75	5	3	7	0.29	1.0	0.41
56	5	3	7	0.35	0.2	0.63	76	5	2		0.32	0.2	0.36
57	5	2		0.36	0.2	0.75	77	5	2		0.42	0.8	0.47
58	5	3	7	0.26	0.8	0.93	78	5	3	8	0.22	1.2	0.41
59	5	3	7	0.26	0.8	0.86	79	5	3	7	0.29	0.4	0.35
60	5	3	7	0.22	1.0	0.94	80	5	3	7	0.24	0.8	0.24
61	5	2	5	0.37	0.2	0.38	81	5	3	7	0.36	0.6	0.51
62	5	3	8	0.13	0.4	0.38	82	5	3	8	0.30	0.6	0.37
63	5	3	7	0.45	0.2	0.42	83	5	3	8	0.36	0.8	0.52
64	5	3	7	0.42	0.8	0.74	84	5	3	8	0.36	1.6	0.52
65	5	3	7	0.41	0.8	0.54	85	5	3	8	0.42	0.8	0.44
66	5	3	7	0.37	1.4	0.60	87	5	3	8	0.27	1.6	0.44
67	5	3	7	0.49	1.6	0.66	88	5	3	8	0.29	1.4	0.37
68	5	3	7	0.37	1.6	0.41	89	5	2	5	0.46	1.2	0.45
69	5	3	7	0.43	2.7	0.55	90	5	2	5	0.19	1.6	0.31

Mean R_ITT: 0.34
Mean p-value: 0.55

Table 36. Constructed-Response Item Analyses, Grade 4 Spanish Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.12	3.88	96.12	.	.	.	0.0	0.96
2	A	2	3	8	0.32	82.65	16.73	.	.	.	0.6	0.17
2	B	2	3	8	0.29	14.29	85.10	.	.	.	0.6	0.85
2	C	2	3	8	0.41	63.47	35.92	.	.	.	0.6	0.36
2	D	2	3	7	0.38	66.94	32.45	.	.	.	0.6	0.32
2	E	2	3	8	0.35	66.12	33.27	.	.	.	0.6	0.33
2	F	2	3	7	0.17	14.69	84.69	.	.	.	0.6	0.85
3	A	2	2	6	0.60	13.47	7.55	31.43	41.84	4.49	1.2	0.53
3	B	2	2	6	0.62	0.41	9.39	45.51	40.00	3.47	1.2	0.59
3	C	2	3	6	0.47	1.84	72.65	24.29	.	.	1.2	0.61
49		4	2	5	0.60	11.63	10.00	32.86	30.61	5.92	9.0	0.48
86		5	2	5	0.50	57.96	1.43	16.53	17.55	3.67	2.9	0.25
91		5	2	5	0.52	6.94	4.90	32.65	36.53	14.69	4.3	0.60

Mean R_ITT: 0.41
Mean p-value: 0.53

Table 37. Multiple-Choice Item Analyses, Grade 4 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	4/5	3	0.29	5.2	0.90	36	2	4/5		0.30	0.2	0.58
2	1	6		0.50	0.3	0.74	37	2	6		0.32	0.7	0.91
3	1	4/5		0.42	0.7	0.70	39	2	1	1	0.39	0.3	0.77
4	1	1		0.30	0.1	0.96	40	2	2	2	0.48	0.2	0.88
5	1	1	2	0.42	0.3	0.80	41	2	6		0.45	0.9	0.60
6	1	6		0.37	0.5	0.91	42	2	1		0.31	1.8	0.94
7	1	2		0.36	0.4	0.89	43	2	4/5		0.42	1.5	0.46
9	1	2	2	0.47	0.1	0.84	44	2	4/5		0.36	0.2	0.88
10	1	1	1	0.35	0.1	0.93	45	2	1		0.39	0.3	0.91
12	1	1	1	0.45	0.2	0.79	47	3	4/5	3	0.52	0.1	0.58
13	1	4/5	3	0.34	0.2	0.92	48	3	6		0.47	0.5	0.89
14	1	4/5		0.29	0.1	0.84	49	3	4/5		0.18	0.0	0.95
16	1	6		0.25	0.7	0.96	50	3	6	1	0.58	1.1	0.69
18	1	4/5	3	0.22	0.3	0.99	51	3	3		0.59	0.3	0.79
19	1	3		0.34	0.1	0.92	53	3	3		0.24	0.2	0.94
20	1	2	2	0.28	0.6	0.94	54	3	1	1	0.47	0.5	0.84
21	1	3		0.39	0.2	0.85	55	3	2	2	0.32	0.1	0.68
22	1	3		0.62	0.3	0.75	57	3	4/5		0.46	0.2	0.69
24	2	4/5		0.29	0.1	0.96	58	3	3		0.31	0.2	0.88
25	2	3		0.49	0.1	0.47	60	3	4/5		0.50	0.3	0.72
26	2	4/5	3	0.38	0.1	0.44	61	3	6		0.31	0.6	0.94
28	2	4/5	3	0.27	0.1	0.83	62	3	6	1	0.55	0.4	0.87
29	2	3		0.32	0.2	0.96	63	3	1		0.50	0.3	0.63
30	2	4/5		0.30	0.3	0.93	64	3	4/5	3	0.34	0.3	0.91
32	2	6	1	0.37	1.6	0.90	66	3	2		0.48	0.2	0.78
33	2	6		0.43	1.0	0.80	67	3	6		0.44	0.5	0.80
35	2	3		0.37	0.3	0.45	68	3	1		0.35	0.4	0.40

Mean R_ITT: 0.39
Mean p-value: 0.80

Table 38. Constructed-Response Item Analyses, Grade 4 Mathematics

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
8		1	6		0.55	25.16	42.17	32.50	.	.	0.2	0.54
11		1	3		0.58	7.06	20.07	34.06	38.58	.	0.2	0.68
15		1	3		0.68	23.43	35.06	38.75	.	.	2.8	0.56
17		1	1	1	0.50	1.01	9.26	14.94	74.66	.	0.1	0.88
23		1	1	1	0.63	39.11	27.25	18.94	6.74	7.70	0.3	0.29
27		2	6	1	0.57	2.74	36.56	60.59	.	.	0.1	0.79
31		2	4/5	3	0.59	15.20	28.53	38.34	17.64	.	0.3	0.53
34		2	1	1	0.68	31.60	18.87	30.50	18.76	.	0.3	0.45
38		2	2	2	0.65	41.16	16.29	41.69	.	.	0.9	0.50
46		2	2	2	0.68	3.46	10.59	24.08	30.00	31.58	0.3	0.69
52		3	4/5		0.49	5.37	26.74	67.36	.	.	0.5	0.81
56		3	6	1	0.61	8.26	17.25	32.96	40.84	.	0.7	0.69
59		3	2	2	0.63	16.10	20.19	63.35	.	.	0.4	0.73
65		3	4/5		0.62	23.84	25.53	20.89	29.56	.	0.2	0.52
69		3	4/5		0.64	13.68	9.24	17.94	13.45	45.39	0.3	0.67

Mean R_ITT: 0.61
Mean p-value: 0.62

Table 39. Multiple-Choice Item Analyses, Grade 5 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
4	3	4	2	0.32	0.0	0.66	42	4	4	2	0.34	1.8	0.78
5	3	1	2	0.35	0.1	0.70	43	4	4	2	0.52	2.0	0.78
6	3	5		0.25	0.2	0.76	44	4	1	2	0.34	3.2	0.72
7	3	5		0.12	0.2	0.28	45	4	5		0.53	1.2	0.58
8	3	6	1/4	0.45	0.1	0.58	46	4	4	1/4	0.30	1.6	0.40
9	3	6	1/4	0.38	0.1	0.78	47	4	1	3	0.28	1.7	0.52
10	3	1	1/4	0.41	0.2	0.81	48	4	1	3	0.25	2.0	0.52
11	3	1	3	0.38	0.1	0.56	49	4	4	1/4	0.39	2.2	0.60
13	3	4	1/4	0.11	0.2	0.47	94	6	4	2	0.36	0.4	0.68
14	3	4	1/4	0.53	0.4	0.76	95	6	1	2	0.50	0.0	0.78
17	3	4	2	0.18	0.3	0.58	96	6	1	3	0.42	0.1	0.72
18	3	4	2	0.24	0.5	0.55	97	6	4	2	0.38	0.2	0.61
19	3	4	2	0.18	0.7	0.53	98	6	1	3	0.36	0.1	0.46
20	3	1	2	0.44	0.5	0.84	99	6	5		0.38	0.4	0.78
21	3	1	2	0.40	0.7	0.82	101	6	5		0.34	0.3	0.63
22	3	1	3	0.48	0.7	0.79	102	6	1	3	0.28	1.1	0.57
23	3	1	2	0.20	0.8	0.42	103	6	1	2	0.48	0.3	0.69
27	4	1	2	0.42	0.7	0.72	104	6	4	1/4	0.44	0.8	0.84
29	4	1	3	0.42	0.1	0.55	107	6	1	1/4	0.37	0.1	0.91
30	4	4	2	0.32	0.2	0.61	108	6	4	1/4	0.45	0.2	0.78
31	4	4	2	0.42	0.4	0.80	109	6	1	1/4	0.39	0.5	0.78
32	4	4	1/4	0.32	0.1	0.57	110	6	6	1/4	0.25	1.1	0.68
33	4	4	1/4	0.41	0.2	0.77	111	6	1	3	0.40	0.3	0.85
34	4	6	1/4	0.47	0.3	0.74	112	6	6	1/4	0.39	0.8	0.91
35	4	6	1/4	0.37	0.3	0.90	113	6	5		0.42	0.2	0.62
36	4	4	1/4	0.36	0.3	0.46	114	6	5		0.48	0.6	0.88
39	4	1	2	0.46	0.9	0.77	115	6	5		0.43	0.3	0.53
40	4	4	2	0.54	0.8	0.82	116	6	5		0.43	0.4	0.85
41	4	1	3	0.39	0.9	0.74	117	6	5		0.34	0.7	0.49

Mean R_ITT: 0.37
Mean p-value: 0.68

Table 40. Constructed-Response Item Analyses, Grade 5 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
12	3	6	1/4	0.63	18.35	29.20	52.15	.	.	0.3	0.67
15	3	6	1/4	0.68	12.50	13.25	21.64	51.63	.	1.0	0.70
16	3	5		0.58	27.52	37.38	33.02	.	.	2.1	0.52
24	3	5		0.62	18.64	17.39	26.72	35.64	.	1.6	0.59
25	4	1	2	0.56	22.53	31.14	45.89	.	.	0.4	0.61
26	4	5		0.54	10.74	27.73	60.91	.	.	0.6	0.75
28	4	5		0.48	29.06	7.03	26.11	36.54	.	1.3	0.56
37	4	1	1/4	0.58	15.08	24.84	17.73	40.22	.	2.1	0.60
38	4	6	2	0.42	59.85	31.20	5.98	.	.	3.0	0.22
50	4	6	1/4	0.32	12.24	42.13	42.68	.	.	3.0	0.64
51	4	6	1/4	0.50	43.94	31.43	17.29	.	.	7.3	0.33
100	6	1	2	0.39	40.66	26.20	32.26	.	.	0.9	0.45
105	6	6	1/4	0.62	7.05	15.33	77.13	.	.	0.5	0.85
106	6	6	1/4	0.55	8.07	53.33	37.56	.	.	1.0	0.64

Mean R_ITT: 0.53
Mean p-value: 0.58

Table 41. Multiple-Choice Item Analyses, Grade 5 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
52	5	3	7	0.29	0.1	0.93	73	5	2	5	0.46	0.5	0.68
53	5	2		0.42	0.1	0.85	74	5	2	5	0.33	0.5	0.50
54	5	3	7	0.41	0.3	0.87	75	5	2	5	0.46	0.5	0.78
55	5	2		0.33	2.1	0.37	76	5	2	5	0.38	0.5	0.58
56	5	3	7	0.29	0.1	0.89	77	5	3	8	0.54	0.2	0.83
57	5	3	7	0.24	0.1	0.29	78	5	3	8	0.50	0.3	0.76
58	5	3	7	0.36	0.3	0.74	79	5	3	8	0.45	0.6	0.68
59	5	3	7	0.44	0.1	0.88	80	5	3	8	0.15	0.5	0.31
60	5	3	7	0.41	0.8	0.92	81	5	3	8	0.42	0.3	0.84
61	5	3	7	0.42	0.2	0.90	82	5	3	8	0.48	2.0	0.77
62	5	3	7	0.33	0.2	0.70	83	5	2	5	0.51	0.5	0.80
63	5	3	7	0.47	0.2	0.76	84	5	3	7	0.46	0.8	0.82
64	5	3	7	0.22	2.6	0.57	85	5	2	7	0.47	0.8	0.72
65	5	3	7	0.43	0.2	0.91	86	5	2	7	0.27	1.1	0.42
66	5	3	7	0.31	0.7	0.63	87	5	2	5	0.46	0.8	0.78
67	5	3	8	0.41	0.9	0.57	88	5	3	7	0.39	1.0	0.72
68	5	3	8	0.31	2.2	0.68	89	5	2	5	0.41	1.1	0.59
69	5	3	8	0.40	0.8	0.91	90	5	3	8	0.39	0.6	0.69
71	5	2	5	0.32	0.2	0.62	91	5	3	7	0.38	0.9	0.65
72	5	2	5	0.45	0.2	0.85	92	5	2	5	0.42	0.9	0.61

Mean R_ITT: 0.39
Mean p-value: 0.71

Table 42. Constructed-Response Item Analyses, Grade 5 Writing

Item #	Part	Session	CS	SA	R_ITT	Percent of Students Obtaining Score Level					Omit %	p-Value
						0	1	2	3	4		
1		1	2	6	0.04	0.30	99.70	.	.	.	0.0	1.00
2	A	2	3	7	0.37	40.40	58.78	.	.	.	0.8	0.59
2	B	2	3	8	0.50	57.36	41.79	.	.	.	0.8	0.42
2	C	2	3	8	0.17	6.82	92.31	.	.	.	0.9	0.92
2	D	2	3	8	0.40	28.86	70.29	.	.	.	0.8	0.70
2	E	2	3	8	0.50	35.27	63.89	.	.	.	0.8	0.64
2	F	2	3	8	0.45	56.94	42.20	.	.	.	0.9	0.42
3	A	2	2	6	0.63	5.73	6.58	29.02	35.29	23.26	0.1	0.66
3	B	2	2	6	0.69	0.08	8.43	33.28	34.55	23.55	0.1	0.68
3	C	2	3	6	0.53	0.24	16.75	82.89	.	.	0.1	0.91
70		5	2	5	0.55	0.26	2.05	26.19	47.58	23.21	0.7	0.73
93		5	2	5	0.56	0.63	4.31	43.32	39.15	10.48	2.1	0.63
118		6	2	5	0.56	0.41	2.53	31.94	45.24	19.01	0.9	0.70

Mean R_ITT: 0.46
Mean p-value: 0.69

Table 43. Multiple-Choice Item Analyses, Grade 5 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	1	1	0.26	1.4	0.86	35	2	2		0.56	0.2	0.52
2	1	1	1	0.31	0.4	0.38	36	2	4/5		0.34	4.7	0.58
4	1	1		0.26	0.3	0.97	38	2	1	1	0.48	0.4	0.76
5	1	4/5		0.45	0.2	0.82	39	2	3		0.43	0.2	0.53
6	1	1	1	0.49	0.6	0.85	40	2	4/5		0.50	0.2	0.73
7	1	6		0.35	0.3	0.84	41	2	2		0.53	0.2	0.76
8	1	1	1	0.47	0.2	0.52	42	2	6	1	0.53	0.3	0.70
10	1	6		0.49	0.4	0.86	44	2	6	1	0.61	0.6	0.75
11	1	2	2	0.48	0.5	0.80	45	2	6		0.48	0.7	0.81
12	1	4/5		0.34	0.4	0.66	47	3	4/5		0.31	0.1	0.85
13	1	3	3	0.46	0.4	0.77	48	3	6		0.40	0.4	0.89
14	1	6		0.45	0.7	0.72	49	3	1	1	0.29	0.0	0.97
15	1	2		0.50	3.9	0.78	50	3	4/5		0.55	0.1	0.66
16	1	2	2	0.50	0.8	0.71	52	3	1	1	0.39	0.2	0.52
17	1	6		0.39	0.4	0.58	53	3	3	3	0.54	0.3	0.89
19	1	6		0.28	1.0	0.90	55	3	4/5		0.34	1.0	0.31
20	1	3		0.39	0.6	0.33	56	3	4/5		0.33	0.4	0.76
21	1	3	3	0.48	0.8	0.80	58	3	4/5		0.51	0.2	0.77
24	2	2	2	0.32	0.1	0.91	59	3	4/5		0.40	0.3	0.61
25	2	6		0.29	0.2	0.94	61	3	1	1	0.42	0.2	0.61
26	2	1	1	0.50	0.2	0.70	62	3	1		0.51	0.3	0.76
27	2	1	1	0.40	0.1	0.81	63	3	1		0.49	0.4	0.79
28	2	6		0.58	0.4	0.74	64	3	6		0.41	1.0	0.88
30	2	6		0.35	0.1	0.70	65	3	3		0.46	0.5	0.90
31	2	3		0.48	0.1	0.87	66	3	2	3	0.56	0.2	0.60
32	2	4/5		0.25	0.2	0.78	67	3	2		0.44	0.1	0.85
34	2	4/5		0.43	0.3	0.51	68	3	1	1	0.46	0.2	0.54

Mean R_ITT: 0.43
Mean p-value: 0.73

Table 44. Constructed-Response Item Analyses, Grade 5 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
3	1	4/5		0.52	23.54	30.34	45.65	.	.	0.5	0.61
9	1	3	3	0.69	2.06	35.11	27.43	35.19	.	0.2	0.65
18	1	1	1	0.56	10.77	38.73	30.54	19.53	.	0.4	0.53
22	1	3		0.49	12.59	14.11	71.88	.	.	1.4	0.79
23	1	2	2	0.64	2.64	12.28	7.80	14.54	61.50	1.2	0.79
29	2	1	1	0.51	5.37	17.46	76.97	.	.	0.2	0.86
33	2	4/5		0.57	18.11	27.31	21.48	32.79	.	0.3	0.56
37	2	2	2	0.68	20.62	16.48	62.28	.	.	0.6	0.71
43	2	2	2	0.57	11.06	9.32	19.88	59.40	.	0.3	0.76
46	2	4/5		0.65	1.30	33.82	13.27	21.67	29.73	0.2	0.61
51	3	2	2	0.52	12.31	26.99	60.44	.	.	0.3	0.74
54	3	6	1	0.57	4.25	11.68	29.74	53.81	.	0.5	0.78
57	3	3		0.64	5.87	17.09	18.98	57.57	.	0.5	0.76
60	3	6		0.60	11.53	47.84	40.21	.	.	0.4	0.64
69	3	3	3	0.72	5.91	10.81	14.84	25.88	42.29	0.3	0.72

Mean R_ITT: 0.60
Mean p-value: 0.70

Table 45. Multiple-Choice Item Analyses, Grade 6 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
4	3	1	3	0.28	0.1	0.80	38	4	4	2	0.40	0.3	0.67
5	3	1	1/4	0.34	0.0	0.79	39	4	4	2	0.49	0.2	0.74
6	3	6	1/4	0.47	0.2	0.84	40	4	1	3	0.44	0.3	0.62
7	3	6	1/4	0.46	0.1	0.88	41	4	1	3	0.54	0.3	0.82
8	3	4	1/4	0.47	0.3	0.78	46	4	1	2	0.49	2.3	0.77
9	3	4	2	0.36	0.3	0.81	47	4	4	2	0.56	2.1	0.81
10	3	5		0.41	0.3	0.59	48	4	1	3	0.45	2.3	0.78
11	3	4	2	0.52	0.5	0.80	49	4	4	2	0.38	3.6	0.76
12	3	6	2	0.41	0.1	0.59	50	4	4	2	0.55	2.6	0.78
13	3	1	3	0.36	0.1	0.43	51	4	1	2	0.36	4.1	0.72
14	3	1	2	0.17	0.2	0.36	53	4	5		0.55	4.9	0.59
15	3	1	3	0.48	0.7	0.64	54	4	6	1/4	0.36	5.7	0.39
16	3	1	3	0.45	0.8	0.53	55	4	6	1/4	0.48	6.1	0.74
17	3	4	2	0.47	1.3	0.77	56	4	6	1/4	0.39	6.4	0.70
18	3	5		0.29	0.2	0.31	57	4	6	1/4	0.22	6.8	0.33
19	3	5		0.57	0.3	0.61	58	4	5		0.40	7.2	0.55
20	3	5		0.37	0.3	0.49	103	6	4	1/4	0.29	0.3	0.40
21	3	5		0.27	0.4	0.83	105	6	6	1/4	0.00	0.2	0.17
24	3	4	2	0.29	0.9	0.44	106	6	4	1/4	0.50	0.7	0.75
25	3	5		0.20	0.5	0.12	107	6	6	1/4	0.43	0.3	0.86
26	3	1	3	0.53	4.5	0.55	108	6	6	1/4	0.22	0.4	0.61
27	3	4	2	0.48	0.6	0.75	109	6	1	3	0.48	0.5	0.80
28	3	1	3	0.42	0.6	0.42	110	6	5		0.22	0.3	0.41
29	3	5		0.34	0.6	0.30	111	6	5		0.44	0.3	0.58
32	4	1	2	0.39	0.7	0.76	113	6	4	2	0.34	0.6	0.73
34	4	1	3	0.49	0.2	0.63	114	6	4	2	0.47	0.3	0.73
35	4	4	2	0.36	0.3	0.64	115	6	1	3	0.31	0.3	0.52
36	4	4	2	0.44	0.7	0.82	116	6	4	2	0.40	0.5	0.74
37	4	4	2	0.48	0.3	0.82							

Mean R_ITT: 0.40
Mean p-value: 0.63

Table 46. Constructed-Response Item Analyses, Grade 6 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
22	3	5		0.53	22.31	7.78	21.06	44.89	.	4.0	0.62
23	3	1	2	0.41	75.82	11.60	8.66	.	.	3.9	0.14
30	4	1	2	0.56	19.52	28.48	51.48	.	.	0.5	0.66
31	4	5		0.52	7.24	22.82	69.08	.	.	0.9	0.80
33	4	5		0.46	26.10	6.62	25.02	40.42	.	1.8	0.59
42	4	1	2	0.47	14.27	70.26	13.78	.	.	1.7	0.49
43	4	1	2	0.53	17.62	23.72	28.74	27.76	.	2.2	0.55
44	4	6	2	0.56	11.99	33.82	51.64	.	.	2.6	0.69
45	4	6	2	0.50	54.17	33.46	6.81	.	.	5.6	0.24
52	4	6	2	0.66	29.59	28.06	22.17	12.09	.	8.1	0.36
59	4	1	1/4	0.59	35.32	23.55	27.82	.	.	13.3	0.40
102	6	6	1/4	0.49	55.99	25.35	16.43	.	.	2.2	0.29
104	6	6	1/4	0.53	39.06	25.43	32.02	.	.	3.5	0.45
112	6	1	2	0.54	41.74	44.79	11.01	.	.	2.5	0.33

Mean R_ITT: 0.53
Mean p-value: 0.47

Table 47. Multiple-Choice Item Analyses, Grade 6 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
60	5	3	7	0.47	0.1	0.72	81	5	2	7	0.39	0.5	0.88
61	5	3	7	0.47	0.1	0.75	82	5	2	7	0.32	0.6	0.75
62	5	3	7	0.34	0.3	0.47	83	5	2		0.51	0.6	0.78
63	5	3	7	0.20	1.0	0.53	84	5	3	7	0.43	0.4	0.86
64	5	3	7	0.43	1.2	0.72	85	5	2	5	0.46	0.2	0.78
65	5	3	7	0.49	1.8	0.76	86	5	2	5	0.36	0.2	0.54
66	5	3	7	0.57	0.2	0.77	87	5	2	5	0.44	0.2	0.68
67	5	3	7	0.39	0.2	0.51	88	5	2	5	0.48	0.3	0.78
68	5	3	7	0.46	0.6	0.76	89	5	2	5	0.47	0.5	0.67
69	5	3	7	0.26	1.1	0.54	90	5	2	7	0.31	0.5	0.47
70	5	3	7	0.51	0.3	0.84	91	5	2	7	0.54	0.6	0.81
71	5	2		0.35	0.6	0.60	92	5	2	8	0.43	0.5	0.64
72	5	3	7	0.39	0.6	0.47	93	5	2	8	0.52	0.8	0.80
73	5	3	7	0.42	0.3	0.55	94	5	2	8	0.48	0.9	0.58
74	5	3	7	0.07	0.2	0.28	95	5	2	5	0.40	0.3	0.65
75	5	3	7	0.38	0.2	0.85	96	5	3	8	0.46	0.4	0.70
76	5	3	7	0.17	0.2	0.33	97	5	3	8	0.48	0.5	0.62
77	5	3	7	0.10	0.3	0.22	98	5	3	8	0.46	0.4	0.74
78	5	3	7	0.28	0.3	0.25	99	5	3	8	0.22	0.6	0.34
79	5	3	7	0.44	0.6	0.52	100	5	3	8	0.43	0.8	0.56

Mean R_ITT: 0.39
Mean p-value: 0.63

Table 48. Constructed-Response Item Analyses, Grade 6 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.06	0.48	99.52	.	.	.	0.0	1.00
2	A	2	3	7	0.45	22.61	76.54	.	.	.	0.8	0.77
2	B	2	3	8	0.50	19.76	79.37	.	.	.	0.9	0.79
2	C	2	3	8	0.35	46.55	52.58	.	.	.	0.9	0.53
2	D	2	3	8	0.52	41.56	57.57	.	.	.	0.9	0.58
2	E	2	3	8	0.43	27.69	71.43	.	.	.	0.9	0.71
2	F	2	3	8	0.15	79.05	20.07	.	.	.	0.9	0.20
3	A	2	2	6	0.54	1.01	6.21	54.16	31.95	6.54	0.1	0.59
3	B	2	2	6	0.57	0.08	7.60	53.61	32.23	6.36	0.1	0.59
3	C	2	3	6	0.49	0.18	16.01	83.69	.	.	0.1	0.92
80		5	2	5	0.57	0.68	5.60	50.40	34.32	8.03	1.0	0.60
101		5	2	5	0.59	0.99	5.47	52.97	30.36	8.15	2.1	0.59
117		6	2	5	0.62	3.69	6.46	46.18	33.77	8.77	1.1	0.59

Mean R_ITT: 0.45
Mean p-value: 0.65

Table 49. Multiple-Choice Item Analyses, Grade 6 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	1	1	0.45	0.3	0.45	30	2	3		0.46	0.2	0.69
2	1	4/5	3	0.43	0.1	0.67	32	2	1	1	0.58	0.3	0.57
3	1	3		0.38	0.1	0.78	33	2	2	2	0.41	0.3	0.44
4	1	1	1	0.32	0.1	0.88	34	2	3		0.47	0.4	0.49
6	1	2	2	0.41	0.3	0.50	36	2	4/5		0.32	0.2	0.53
8	1	6		0.22	0.6	0.88	38	2	6		0.32	0.2	0.70
9	1	2	2	0.46	0.1	0.81	39	2	2	2	0.31	0.2	0.92
10	1	1		0.38	0.5	0.28	41	3	6		0.41	0.2	0.72
11	1	6		0.36	0.9	0.74	42	3	6	1	0.50	0.2	0.42
13	1	3		0.47	0.5	0.44	43	3	1	1	0.42	0.3	0.45
14	1	2	2	0.44	0.4	0.82	45	3	4/5		0.34	0.1	0.87
15	1	4/5	3	0.49	0.3	0.52	46	3	6		0.37	0.4	0.84
17	1	4/5	3	0.33	0.4	0.75	48	3	1	1	0.34	0.2	0.71
18	1	1	1	0.45	1.2	0.80	50	3	1	1	0.38	0.2	0.72
19	1	6	1	0.36	0.4	0.83	51	3	4/5	3	0.37	0.5	0.61
21	2	4/5	3	0.46	0.2	0.72	53	3	4/5		0.32	0.2	0.87
22	2	1	1	0.47	0.1	0.65	54	3	4/5	3	0.45	0.3	0.68
23	2	6		0.58	4.4	0.60	55	3	2		0.24	0.4	0.43
25	2	6		0.48	0.4	0.33	56	3	3		0.39	0.4	0.38
26	2	4/5		0.37	0.7	0.69	57	3	1	1	0.39	0.4	0.80
27	2	3		0.28	0.2	0.40	58	3	2		0.35	0.3	0.74
28	2	4/5	3	0.43	0.3	0.66	59	3	4/5		0.41	0.2	0.68
29	2	3		0.35	0.1	0.71							

Mean R_ITT: 0.40
Mean p-value: 0.65

Table 50. Constructed-Response Item Analyses, Grade 6 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
5	1	3		0.69	1.35	26.13	27.25	45.12	.	0.2	0.72
7	1	4/5	3	0.56	16.73	25.51	57.41	.	.	0.3	0.70
12	1	3		0.59	28.40	29.11	41.68	.	.	0.8	0.56
16	1	1	1	0.64	28.75	13.63	35.16	19.80	.	2.7	0.48
20	1	2	2	0.67	2.03	6.37	20.09	34.64	36.34	0.5	0.74
24	2	3		0.51	69.79	13.40	16.01	.	.	0.8	0.23
31	2	4/5		0.58	17.07	39.05	27.03	15.73	.	1.1	0.47
35	2	2	2	0.52	7.45	8.30	17.24	66.71	.	0.3	0.81
37	2	4/5	3	0.56	71.42	18.38	9.59	.	.	0.6	0.19
40	2	1	1	0.74	17.85	40.24	16.94	13.20	11.38	0.4	0.40
44	3	6	1	0.64	55.53	10.85	32.97	.	.	0.6	0.38
47	3	2	2	0.57	12.29	28.31	50.16	8.92	.	0.3	0.52
49	3	6	1	0.57	40.50	27.43	31.22	.	.	0.8	0.45
52	3	4/5	3	0.61	22.34	23.35	30.78	23.17	.	0.4	0.51
60	3	3		0.65	0.89	11.28	8.24	23.05	55.96	0.6	0.80

Mean R_ITT: 0.61
Mean p-value: 0.53

Table 51. Multiple-Choice Item Analyses, Grade 7 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
6	3	4	2	0.30	0.3	0.49	42	4	4	2	0.54	0.7	0.78
7	3	5		0.23	0.1	0.20	43	4	1	2	0.33	1.4	0.46
8	3	1	3	0.56	0.2	0.67	44	4	4	2	0.23	1.6	0.48
9	3	4	2	0.44	0.5	0.82	46	4	6	4	0.43	1.1	0.54
10	3	1	3	0.47	0.5	0.48	47	4	6	4	0.45	1.2	0.84
11	3	1	3	0.45	0.7	0.83	48	4	6	4	0.38	1.3	0.78
12	3	5		0.36	0.4	0.31	49	4	6	4	0.31	1.4	0.43
13	3	5		0.50	0.3	0.86	50	4	5		0.40	1.8	0.68
14	3	6	4	0.29	0.1	0.40	52	4	5		0.52	3.3	0.72
15	3	4	4	0.45	0.2	0.62	98	6	4	1	0.55	1.6	0.79
16	3	5		0.52	0.2	0.75	99	6	1	1	0.45	0.1	0.86
17	3	5		0.38	0.7	0.81	100	6	4	1	0.53	0.2	0.81
18	3	4	4	0.24	0.3	0.26	101	6	6	1	0.43	0.4	0.53
19	3	1	3	0.48	0.4	0.68	102	6	6	1	0.51	0.3	0.91
20	3	1	3	0.40	0.5	0.93	103	6	4	1	0.46	0.4	0.75
23	3	5		0.48	0.3	0.57	104	6	1	3	0.16	0.8	0.54
24	3	5		0.36	0.6	0.45	105	6	4	1	0.46	0.2	0.78
27	4	6	1	0.40	0.3	0.86	106	6	5		0.51	0.3	0.69
28	4	4	1	0.44	0.1	0.74	107	6	5		0.22	0.2	0.55
29	4	1	3	0.40	0.1	0.45	108	6	4	4	0.38	0.2	0.63
30	4	1	3	0.38	0.2	0.92	109	6	1	3	0.58	0.2	0.62
31	4	4	1	0.44	0.3	0.91	110	6	6	4	0.42	0.4	0.67
32	4	1	1	0.28	0.3	0.49	111	6	6	4	0.15	0.2	0.31
33	4	6	1	0.43	0.4	0.83	112	6	4	4	0.52	0.2	0.76
34	4	4	1	0.42	0.5	0.68	113	6	5		0.46	0.3	0.62
35	4	1	3	0.46	0.4	0.72	114	6	5		0.29	0.3	0.77
39	4	1	2	0.37	0.7	0.59	115	6	1	3	0.33	0.2	0.65
40	4	1	2	0.21	0.4	0.37	117	6	5		0.34	0.3	0.62
41	4	4	2	0.40	0.4	0.39	118	6	5		0.23	0.5	0.45

Mean R_ITT: 0.40
Mean p-value: 0.64

Table 52. Constructed-Response Item Analyses, Grade 7 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	3	5		0.50	19.12	6.82	21.90	49.35	.	2.8	0.66
5	3	1	2	0.45	69.06	14.16	12.45	.	.	4.3	0.20
21	3	6	4	0.49	24.06	21.98	25.70	25.42	.	2.8	0.50
22	3	6	4	0.49	22.98	27.97	46.07	.	.	3.0	0.60
26	4	5		0.51	18.21	34.32	45.16	.	.	2.3	0.62
36	4	1	1	0.50	8.51	0.24	26.63	63.16	.	1.5	0.81
37	4	1	2	0.51	21.60	26.99	48.55	.	.	2.9	0.62
38	4	1	2	0.64	21.18	15.71	58.81	.	.	4.3	0.67
45	4	1	2	0.63	36.72	8.63	29.18	20.00	.	5.5	0.42
51	4	1	4	0.61	23.75	25.16	46.92	.	.	4.2	0.60
95	6	6	1	0.59	30.13	30.61	38.45	.	.	0.8	0.54
96	6	4	1	0.62	33.67	33.72	32.03	.	.	0.6	0.49
97	6	6	1	0.51	18.67	32.81	46.51	.	.	2.0	0.63
116	6	4	4	0.40	26.64	64.46	6.82	.	.	2.1	0.39

Mean R_ITT: 0.53
Mean p-value: 0.55

Table 53. Multiple-Choice Item Analyses, Grade 7 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
53	5	3	7	0.18	0.2	0.43	74	5	2	8	0.51	0.3	0.86
54	5	3	8	0.38	0.1	0.82	75	5	2	8	0.49	0.3	0.74
55	5	3	7	0.46	0.5	0.69	76	5	3	7	0.18	0.6	0.59
56	5	3	7	0.40	1.1	0.83	77	5	3	7	0.34	0.8	0.54
57	5	3	7	0.35	1.3	0.65	78	5	3	7	0.09	0.7	0.37
58	5	3	7	0.45	2.2	0.83	79	5	3	7	0.24	5.2	0.74
59	5	3	7	0.40	0.3	0.61	80	5	3	7	0.30	0.3	0.45
60	5	3	7	0.31	0.3	0.57	81	5	3	7	0.15	0.3	0.26
61	5	3	7	0.39	0.3	0.54	82	5	3	7	0.46	0.4	0.53
62	5	2		0.45	0.6	0.54	83	5	3	7	0.13	0.4	0.29
63	5	3	8	0.27	0.1	0.51	84	5	2	5	0.32	0.2	0.32
64	5	3	8	0.35	0.2	0.39	85	5	2	5	0.41	0.3	0.53
65	5	3	8	0.52	0.2	0.80	86	5	2	5	-	0.3	-
67	5	2	8	0.36	0.2	0.43	87	5	2	5	0.47	0.2	0.77
68	5	2	8	0.47	0.3	0.84	88	5	2	5	0.48	0.3	0.77
69	5	2	8	0.51	0.4	0.66	89	5	2	7	0.52	0.4	0.81
70	5	2	8	0.45	0.2	0.62	90	5	3	8	0.43	0.3	0.55
71	5	3	8	0.43	0.3	0.88	91	5	3	8	0.24	0.6	0.25
72	5	3	8	0.43	0.6	0.82	92	5	3	8	0.51	1.1	0.76
73	5	2	8	0.41	0.2	0.73	93	5	2		0.48	0.5	0.83

Mean R_ITT: 0.38
Mean p-value: 0.62

Table 54. Constructed-Response Item Analyses, Grade 7 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.08	0.53	99.47	.	.	.	0.0	0.99
2	A	2	3	7	0.54	22.72	76.37	.	.	.	0.9	0.76
2	B	2	3	7	0.36	25.73	73.36	.	.	.	0.9	0.73
2	C	2	3	8	0.47	29.74	69.36	.	.	.	0.9	0.69
2	D	2	3	7	0.47	44.19	54.90	.	.	.	0.9	0.55
2	E	2	3	8	0.58	38.06	61.04	.	.	.	0.9	0.61
2	F	2	3	8	0.39	56.23	42.86	.	.	.	0.9	0.43
3	A	2	2	6	0.61	2.85	5.16	51.64	34.26	5.90	0.2	0.59
3	B	2	2	6	0.62	0.02	7.19	55.40	31.63	5.58	0.2	0.59
3	C	2	3	6	0.48	0.02	11.89	87.90	.	.	0.2	0.94
25		3	2	5	0.58	0.12	8.01	53.42	31.95	5.44	1.1	0.58
66		5	2	5	0.60	0.32	12.73	53.24	25.33	5.08	3.3	0.54
94		5	2	5	0.60	0.16	9.16	47.05	34.89	7.14	1.6	0.59

Mean R_ITT: 0.49
Mean p-value: 0.66

Table 55. Multiple-Choice Item Analyses, Grade 7 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	3		0.41	0.2	0.58	31	2	1/6		0.56	0.3	0.65
2	1	4/5		0.36	0.1	0.63	33	2	2		0.44	0.3	0.52
4	1	4/5		0.39	0.3	0.68	35	2	1/6	1	0.43	0.3	0.68
5	1	2		0.39	0.2	0.58	36	2	1/6	1	0.38	1.0	0.39
6	1	4/5	2	0.45	0.2	0.55	37	2	4/5		0.45	0.3	0.73
8	1	3		0.30	0.3	0.86	38	2	4/5		0.38	0.2	0.64
9	1	1/6		0.40	0.6	0.43	39	2	4/5		0.42	0.4	0.64
10	1	1/6		0.21	0.8	0.91	41	3	2		0.42	0.1	0.84
12	1	2		0.37	0.4	0.42	42	3	1/6	1	0.46	0.1	0.65
13	1	1/6		0.45	0.4	0.42	44	3	1/6		0.55	0.8	0.46
14	1	4/5	2	0.24	0.7	0.26	45	3	4/5		0.40	1.0	0.63
16	1	1/6		0.58	0.7	0.61	46	3	2		0.39	0.5	0.83
17	1	4/5		0.33	0.7	0.54	47	3	3		0.41	0.7	0.56
18	1	3		0.44	0.6	0.45	48	3	3		0.49	0.2	0.70
19	1	1/6		0.35	0.7	0.83	50	3	1/6		0.47	0.5	0.49
21	2	2		0.42	0.1	0.75	51	3	1/6	1	0.44	0.4	0.46
22	2	2		0.41	0.1	0.68	52	3	1/6	1	0.51	0.3	0.74
23	2	3		0.44	0.3	0.67	54	3	4/5		0.20	0.2	0.79
24	2	1/6		0.43	0.5	0.74	55	3	2		0.54	0.2	0.55
25	2	1/6		0.46	0.5	0.31	56	3	3		0.38	0.5	0.67
27	2	4/5		0.23	0.2	0.32	58	3	2		0.48	0.3	0.60
28	2	3		0.56	0.3	0.63	59	3	4/5	2	0.43	0.4	0.13
30	2	3		0.16	0.3	0.97							

Mean R_ITT: 0.41
Mean p-value: 0.60

Table 56. Constructed-Response Item Analyses, Grade 7 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
3	1	2		0.57	58.75	14.18	24.40	.	.	2.7	0.31
7	1	1/6	1	0.77	29.16	23.99	14.40	31.87	.	0.6	0.49
11	1	3		0.54	77.76	9.69	11.14	.	.	1.4	0.16
15	1	4/5	2	0.69	62.94	20.68	4.71	8.93	.	2.7	0.19
20	1	1/6		0.57	5.77	61.07	23.66	3.94	4.49	1.1	0.35
26	2	3		0.72	54.23	24.35	12.36	7.92	.	1.1	0.24
29	2	4/5	2	0.68	64.17	18.07	16.89	.	.	0.9	0.26
32	2	4/5		0.58	64.88	7.60	25.58	.	.	1.9	0.29
34	2	2		0.63	4.01	19.65	38.39	37.49	.	0.5	0.70
40	2	4/5	2	0.75	15.44	30.48	25.01	16.89	11.40	0.8	0.44
43	3	1/6	1	0.70	41.73	42.71	14.89	.	.	0.7	0.36
49	3	4/5		0.71	27.66	17.60	23.60	28.96	.	2.2	0.51
53	3	1/6	1	0.63	35.11	24.90	38.60	.	.	1.4	0.51
57	3	2		0.62	10.76	28.26	47.23	13.27	.	0.5	0.54
60	3	3		0.67	24.52	28.48	21.98	19.88	2.95	2.2	0.36

Mean R_ITT: 0.66
Mean p-value: 0.38

Table 57. Multiple-Choice Item Analyses, Grade 8 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
4	3	6	1	0.45	0.3	0.80	40	4	5		0.24	3.9	0.84
5	3	4	1	0.41	0.2	0.90	41	4	5		0.41	4.0	0.46
6	3	4	1	0.39	0.2	0.83	87	6	1	1	0.29	2.0	0.82
7	3	6	1	0.23	0.2	0.49	88	6	1	1	0.42	0.1	0.88
8	3	1	3	0.48	0.2	0.89	89	6	6	1	0.43	0.3	0.59
9	3	1	3	0.46	0.2	0.54	90	6	1	1	0.44	0.3	0.81
11	3	4	1	0.49	0.2	0.59	91	6	6	1	0.48	0.2	0.93
12	3	1	1	0.55	0.2	0.80	92	6	1	3	0.17	0.4	0.55
13	3	5		0.38	0.1	0.87	93	6	1	3	0.42	1.1	0.63
14	3	5		0.43	0.1	0.73	94	6	4	1	0.48	0.1	0.84
16	3	4	4	0.38	0.1	0.77	95	6	5		0.51	0.3	0.72
17	3	4	4	0.35	0.3	0.66	96	6	5		0.23	0.1	0.57
19	3	6	4	0.13	3.3	0.29	97	6	6	4	0.20	0.2	0.37
20	3	6	4	0.39	0.2	0.73	98	6	6	4	0.26	0.3	0.34
21	3	5		0.45	0.3	0.56	99	6	5		0.24	0.6	0.38
25	4	4	1	0.44	0.1	0.90	100	6	4	4	0.30	0.3	0.40
26	4	6	1	0.52	0.2	0.86	101	6	5		0.28	5.5	0.30
27	4	6	1	0.32	0.4	0.44	102	6	1	4	0.44	0.3	0.47
28	4	6	1	0.31	0.4	0.50	106	6	1	3	0.46	0.8	0.81
29	4	6	1	0.49	0.1	0.81	107	6	1	3	0.50	0.9	0.53
30	4	1	3	0.27	0.1	0.70	108	6	5		0.29	1.0	0.87
31	4	5		0.46	0.3	0.68	110	6	5		0.47	1.2	0.68
34	4	1	2	0.38	1.1	0.63	111	6	1	3	0.36	2.3	0.41
35	4	1	2	0.31	0.2	0.42	112	6	4	2	0.39	2.3	0.55
36	4	4	2	0.46	0.3	0.45	113	6	4	2	0.44	2.5	0.77
37	4	4	2	0.51	0.3	0.84	114	6	5		0.43	2.4	0.60
38	4	1	2	0.43	0.6	0.55	115	6	5		0.49	2.6	0.75

Mean R_ITT : 0.39
Mean p-value: 0.65

Table 58. Constructed-Response Item Analyses, Grade 8 Reading

Item #	Session	CS	SA	R_ITT	Percent of Students Obtaining Score Level					Omit %	p-Value
					0	1	2	3	4		
10	3	4	1	0.57	14.55	24.68	59.16	.	.	1.6	0.71
15	3	6	4	0.50	49.10	15.89	12.76	15.70	.	6.6	0.30
18	3	6	4	0.61	11.21	12.58	23.92	50.65	.	1.7	0.71
23	4	1	1	0.50	40.09	35.36	22.43	.	.	2.1	0.40
24	4	4	1	0.57	28.01	20.45	20.66	28.05	.	2.8	0.49
32	4	1	2	0.54	17.11	26.93	53.46	.	.	2.5	0.67
33	4	1	2	0.65	17.05	16.49	62.95	.	.	3.5	0.71
39	4	1	2	0.65	29.82	10.09	29.43	26.80	.	3.9	0.50
84	6	6	1	0.57	28.07	29.46	41.51	.	.	1.0	0.56
85	6	4	1	0.63	29.76	33.29	36.33	.	.	0.6	0.53
86	6	6	1	0.49	18.37	35.25	44.02	.	.	2.4	0.62
103	6	4	4	0.57	7.27	20.43	30.59	27.59	8.79	5.3	0.50
104	6	1	2	0.65	22.36	21.40	52.88	.	.	3.4	0.64
105	6	5		0.65	4.84	8.58	16.58	31.63	33.09	5.3	0.67
109	6	1	2	0.58	51.48	22.30	15.07	.	.	11.1	0.26

Mean R_ITT: 0.58
Mean p-value: 0.55

Table 59. Multiple-Choice Item Analyses, Grade 8 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
42	5	3	8	0.48	0.1	0.80	63	5	2	8	0.54	0.3	0.87
43	5	3	8	0.46	0.2	0.82	64	5	2		0.42	0.2	0.73
44	5	2		0.43	0.6	0.71	65	5	3	7	0.21	0.3	0.46
45	5	2		0.37	0.1	0.84	66	5	2		0.46	0.2	0.65
46	5	3	7	0.43	0.2	0.89	67	5	2	5	0.48	0.2	0.76
47	5	2	5	0.33	0.3	0.33	68	5	3	7	0.44	0.2	0.58
48	5	2	5	0.38	0.3	0.62	69	5	3	7	0.47	0.3	0.69
49	5	2	5	-	0.3	-	70	5	3	7	0.31	0.5	0.49
50	5	2	5	0.46	0.4	0.81	71	5	3	7	0.51	0.4	0.65
51	5	3	7	0.37	0.9	0.67	72	5	3	7	0.50	1.7	0.77
52	5	3	7	0.21	0.3	0.63	73	5	3	7	0.36	0.3	0.41
53	5	3	7	0.07	0.7	0.35	74	5	3	7	0.41	0.5	0.53
54	5	3	7	0.20	5.4	0.77	75	5	3	7	0.53	0.6	0.79
55	5	3	7	0.32	0.3	0.72	76	5	3	7	0.40	0.6	0.57
56	5	3	7	0.21	0.3	0.38	77	5	3	7	0.46	0.4	0.67
58	5	2	5	0.18	0.4	0.56	78	5	3	8	0.38	0.3	0.72
59	5	2	5	0.45	0.3	0.91	79	5	3	8	0.42	0.6	0.67
60	5	3	8	0.47	0.3	0.82	80	5	3	7	0.56	0.5	0.73
61	5	2	5	0.50	0.5	0.71	81	5	2	5	0.50	0.3	0.75
62	5	2	8	0.49	0.2	0.74	82	5	3	7	0.40	0.3	0.63

Mean R_ITT: 0.40
Mean p-value: 0.67

Table 60. Constructed-Response Item Analyses, Grade 8 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.10	0.78	99.22	.	.	.	0.0	0.99
2	A	2	3	8	0.42	24.96	73.83	.	.	.	1.2	0.74
2	B	2	3	8	0.33	43.37	55.42	.	.	.	1.2	0.55
2	C	2	3	8	0.34	55.17	43.62	.	.	.	1.2	0.44
2	D	2	3	7	0.41	63.68	35.11	.	.	.	1.2	0.35
2	E	2	3	7	0.45	55.52	43.27	.	.	.	1.2	0.43
2	F	2	3	8	0.30	9.82	88.98	.	.	.	1.2	0.89
3	A	2	2	6	0.62	0.26	5.04	44.69	40.40	9.37	0.2	0.63
3	B	2	2	6	0.66	0.01	6.05	45.00	39.59	9.12	0.2	0.63
3	C	2	3	6	0.52	0.02	14.66	85.09	.	.	0.2	0.92
22		3	2	5	0.64	0.06	9.74	41.69	40.33	6.80	1.4	0.60
57		5	2	5	0.62	0.10	9.05	43.90	38.58	6.56	1.8	0.60
83		5	2	5	0.62	0.13	15.30	44.81	31.23	4.98	3.6	0.55

Mean R_ITT : 0.46
Mean p-value: 0.64

Table 61. Multiple-Choice Item Analyses, Grade 8 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	2	2	0.34	0.1	0.60	32	2	1/6	2	0.30	0.3	0.29
3	1	1/6		0.01	0.9	0.13	33	2	4/5	2	0.33	0.3	0.36
4	1	3	2	0.44	0.1	0.61	35	2	1/6		0.53	0.2	0.39
5	1	3		0.45	0.5	0.53	36	2	4/5	3	0.20	0.5	0.27
6	1	2		0.22	0.4	0.65	37	2	1/6		0.48	0.7	0.56
8	1	1/6		0.22	0.3	0.11	38	2	1/6		0.59	1.1	0.54
9	1	1/6		0.55	0.2	0.55	39	2	2	1	0.42	1.0	0.27
11	1	2		0.42	0.4	0.47	41	3	2		0.36	0.1	0.81
12	1	4/5	3	0.35	0.3	0.38	42	3	4/5	3	0.32	0.1	0.66
13	1	4/5		0.37	0.2	0.65	43	3	4/5		0.41	0.2	0.72
14	1	1/6		0.49	0.6	0.55	45	3	1/6		0.46	0.2	0.51
16	1	4/5	2	0.35	0.4	0.74	46	3	3		0.21	0.2	0.26
17	1	4/5	2	0.20	0.5	0.60	47	3	1/6		0.56	0.3	0.76
18	1	4/5		0.56	0.7	0.40	49	3	3		0.38	0.4	0.71
19	1	3		0.24	2.9	0.83	51	3	4/5		0.55	0.1	0.30
21	2	3		0.34	0.1	0.29	52	3	2		0.50	0.2	0.76
22	2	2	1	0.22	0.1	0.35	54	3	1/6		0.44	0.2	0.70
23	2	2	1	0.30	0.1	0.93	55	3	4/5		0.45	0.2	0.48
24	2	3		0.54	0.1	0.50	56	3	3		0.55	0.2	0.34
26	2	2		0.48	0.1	0.74	57	3	2	1	0.55	0.3	0.52
27	2	3		0.30	0.1	0.17	58	3	4/5	3	0.19	0.2	0.82
29	2	4/5	3	0.26	0.4	0.13	59	3	2	1	0.26	0.2	0.38
31	2	4/5		0.50	0.8	0.54							

Mean R_ITT: 0.38
Mean p-value:0.51

Table 62. Constructed-Response Item Analyses, Grade 8 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
2	1	2		0.51	33.03	24.10	42.57	.	.	0.3	0.55
7	1	3		0.73	19.54	27.44	15.88	35.99	.	1.2	0.56
10	1	1/6	2	0.67	49.78	8.38	39.71	.	.	2.1	0.44
15	1	1/6	2	0.47	28.21	56.11	7.13	6.47	.	2.1	0.30
20	1	1/6	2	0.75	27.33	30.93	24.53	10.70	4.35	2.2	0.32
25	2	2	1	0.54	76.41	10.61	6.77	.	.	6.2	0.12
28	2	3		0.69	13.56	16.95	32.13	36.13	.	1.2	0.63
30	2	4/5	2	0.58	61.85	7.37	27.92	.	.	2.9	0.32
34	2	4/5	3	0.67	41.84	37.75	11.77	6.66	.	2.0	0.27
40	2	4/5	3	0.74	10.17	23.18	27.29	19.04	19.03	1.3	0.53
44	3	3		0.69	32.90	26.30	40.15	.	.	0.6	0.53
48	3	4/5		0.67	17.58	10.86	24.56	45.50	.	1.5	0.65
50	3	1/6	2	0.54	58.93	5.42	33.32	.	.	2.3	0.36
53	3	2	1	0.74	36.35	20.38	17.46	22.78	.	3.0	0.41
60	3	2	1	0.66	3.80	22.24	51.39	5.08	17.00	0.5	0.52

Mean R_ITT: 0.64
Mean p-value: 0.43

Table 63. Multiple-Choice Item Analyses, Grade 8 Science

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	3		0.22	0.1	0.82	47	2	1	1	0.35	0.4	0.38
3	1	2	4	0.24	0.2	0.53	48	2	5/6		0.17	0.5	0.29
4	1	3		0.15	0.1	0.22	49	2	5/6		0.40	0.3	0.62
5	1	3		0.36	0.1	0.54	50	2	5/6		0.39	0.1	0.91
6	1	5/6		0.35	0.1	0.73	51	2	4	5	0.17	0.4	0.36
7	1	2	4	0.18	0.1	0.48	52	2	3		0.32	0.4	0.51
8	1	2	3	0.28	0.1	0.35	53	2	5/6		0.55	0.4	0.57
10	1	1		0.55	0.1	0.67	54	2	1	2	0.55	0.1	0.80
11	1	1	2	0.32	0.2	0.64	56	3	4	5	0.28	0.2	0.23
12	1	1	2	0.48	0.1	0.57	58	3	2	4	-	0.2	-
13	1	4		0.21	0.3	0.39	59	3	3		0.34	0.1	0.29
14	1	1	2	0.35	0.1	0.64	60	3	4		0.38	0.1	0.75
15	1	4	5	0.38	0.1	0.90	61	3	1	2	0.38	0.1	0.85
16	1	4	5	0.40	0.3	0.85	62	3	4		0.33	2.5	0.50
17	1	2	4	0.31	0.1	0.53	64	3	1	2	0.31	0.1	0.95
18	1	5/6		0.52	0.1	0.64	65	3	1	2	0.36	0.7	0.89
26	2	3		0.17	0.1	0.53	67	3	5/6		0.51	0.3	0.88
27	2	1	2	0.42	0.1	0.87	68	3	4		0.22	0.1	0.76
28	2	1	2	0.24	0.5	0.71	69	3	2	3	0.36	0.1	0.43
30	2	3		0.30	0.2	0.40	70	3	3		0.17	0.3	0.47
32	2	5/6		0.26	0.2	0.84	71	3	2	4	0.38	0.3	0.80
34	2	1	1	0.40	0.2	0.84	72	3	1	2	0.36	0.1	0.90
35	2	2	4	0.31	0.3	0.48	73	3	1	1	0.43	0.3	0.71
36	2	4	5	0.38	0.3	0.51	74	3	3		0.51	0.1	0.82
37	2	2	3	0.26	0.3	0.49	75	3	3		0.40	0.2	0.79
38	2	1	1	0.37	0.3	0.59	76	3	3		0.35	0.4	0.80
40	2	3		0.33	0.3	0.41	79	3	2	4	0.33	0.1	0.25
42	2	5/6		0.40	0.2	0.89	80	3	2	3	0.41	0.1	0.79
43	2	1	2	0.55	0.2	0.69	81	3	1	1	0.36	0.1	0.88
44	2	2	4	0.49	0.3	0.77	82	3	4	5	0.35	0.2	0.50
45	2	1	2	0.43	0.2	0.86	83	3	4	5	0.46	0.2	0.46
46	2	4	5	0.44	0.2	0.61	84	3	4	5	0.42	0.2	0.57

Mean R_ITT: 0.35
Mean p-value: 0.63

Table 64. Constructed-Response Item Analyses, Grade 8 Science

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
2	1	1		0.62	40.20	40.59	9.85	.	.	9.4	0.30
9	1	3		0.59	33.65	32.20	29.29	.	.	4.9	0.45
19	1	1	1	0.46	50.84	48.37	.	.	.	0.8	0.48
20	1	1	2	0.62	17.05	12.02	14.77	28.80	26.00	1.4	0.58
21	1	1	2	0.55	33.71	62.93	.	.	.	3.4	0.63
22	1	1	2	0.33	39.96	57.93	.	.	.	2.1	0.58
23	1	1	1	0.41	32.71	64.20	.	.	.	3.1	0.64
24	1	1	1	0.67	14.77	24.48	23.33	33.85	.	3.6	0.58
25	2	4	5	0.43	68.63	4.59	20.40	.	.	6.4	0.23
29	2	2	3	0.60	49.94	28.84	19.54	.	.	1.7	0.34
31	2	5/6		0.35	76.18	22.78	.	.	.	1.0	0.23
33	2	4	5	0.57	29.08	61.50	5.71	.	.	3.7	0.36
39	2	4	5	0.63	27.93	43.37	26.64	.	.	2.1	0.48
41	2	2	3	0.30	56.53	25.74	13.57	.	.	4.2	0.26
55	2	3		0.32	76.23	13.54	1.86	.	.	8.4	0.09
57	3	2	3	0.47	52.18	10.28	34.25	.	.	3.3	0.39
63	3	2	4	0.51	66.96	23.36	6.94	.	.	2.7	0.19
66	3	3		0.41	7.13	17.22	74.13	.	.	1.5	0.83
77	3	3		0.42	42.16	55.68	.	.	.	2.2	0.56
78	3	4	5	0.31	72.53	21.31	0.94	.	.	5.2	0.12

Mean R_ITT: 0.48
Mean p-value: 0.42

Table 65. Multiple-Choice Item Analyses, Grade 9 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
6	3	4	1	0.42	0.1	0.92	39	4	6	4	0.43	0.1	0.73
7	3	6	1	0.48	0.1	0.90	40	4	1	3	0.25	0.1	0.71
8	3	6	1	0.33	0.2	0.45	41	4	4	4	0.49	0.1	0.69
9	3	6	1	0.32	0.2	0.55	42	4	6	4	0.26	0.3	0.76
10	3	6	1	0.47	0.1	0.84	43	4	1	2	0.42	0.5	0.73
11	3	1	3	0.25	0.2	0.70	45	4	1	3	0.54	0.2	0.81
12	3	5		0.48	0.4	0.71	46	4	1	3	0.31	0.3	0.66
15	3	4	2	0.41	1.1	0.75	48	4	5		0.32	1.3	0.64
16	3	4	2	0.43	0.2	0.78	49	4	5		0.36	0.5	0.43
17	3	4	2	0.53	0.3	0.90	50	4	5		0.36	0.4	0.68
18	3	5		0.45	0.5	0.85	51	4	5		0.41	0.5	0.80
19	3	1	3	0.33	0.3	0.45	53	4	5		0.39	0.5	0.58
20	3	1	3	0.54	0.5	0.72	54	4	5		0.25	1.4	0.27
21	3	5		0.42	0.5	0.74	97	6	6	1	0.38	0.1	0.81
22	3	5		0.36	0.3	0.51	98	6	1	3	0.48	0.1	0.82
24	3	4	4	0.38	0.4	0.80	99	6	5		0.27	0.2	0.49
25	3	4	4	0.34	0.5	0.65	101	6	5		0.34	0.3	0.41
27	3	6	4	0.16	1.5	0.32	102	6	5		0.34	1.9	0.65
28	3	6	4	0.40	1.0	0.74	105	6	1	3	0.51	0.2	0.85
29	3	5		0.46	1.1	0.55	107	6	4	2	0.33	0.3	0.40
30	4	1	1	0.38	0.4	0.73	108	6	1	2	0.43	0.3	0.58
31	4	4	1	0.49	0.1	0.62	109	6	4	2	0.41	0.6	0.54
32	4	1	3	0.30	0.1	0.55	110	6	4	2	0.50	0.5	0.79
33	4	6	1	0.35	0.2	0.32	111	6	1	3	0.30	0.5	0.33
35	4	5		0.28	0.2	0.50	113	6	4	2	0.10	0.5	0.32
36	4	5		0.20	0.2	0.50	114	6	5		0.45	0.4	0.52
37	4	5		0.50	1.4	0.81	115	6	5		0.46	0.5	0.72
38	4	6	4	0.46	0.1	0.69	116	6	5		0.25	0.6	0.33

Mean R_ITT: 0.38
Mean p-value: 0.64

Table 66. Constructed-Response Item Analyses, Grade 9 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	3	1	1	0.51	31.17	35.17	31.67	.	.	2.0	0.49
5	3	4	1	0.56	22.86	15.91	20.69	37.95	.	2.6	0.57
13	3	6	2	0.58	9.89	33.48	53.95	.	.	2.7	0.71
14	3	6	2	0.60	15.25	44.88	36.55	.	.	3.3	0.59
23	3	6	4	0.55	39.13	17.35	13.05	22.55	.	7.9	0.37
26	3	6	4	0.63	8.92	10.08	20.60	57.43	.	3.0	0.75
34	4	1	1	0.66	15.90	20.94	5.30	51.86	.	6.0	0.62
44	4	4	2	0.55	19.40	35.35	23.02	17.59	.	4.6	0.45
47	4	1	2	0.65	17.11	7.47	36.29	31.26	.	7.9	0.58
52	4	1	2	0.68	11.19	11.72	20.96	46.78	.	9.4	0.65
100	6	1	1	0.56	47.18	13.23	22.29	12.81	.	4.5	0.32
103	6	1	1	0.49	60.69	21.54	9.30	.	.	8.5	0.20
104	6	1	1	0.55	43.53	29.36	20.52	.	.	6.6	0.35
106	6	1	2	0.60	41.84	27.97	10.17	12.13	.	7.9	0.28
112	6	4	2	0.66	19.01	16.03	51.79	.	.	13.2	0.60

Mean R_ITT: 0.59
Mean p-value: 0.50

Table 67. Multiple-Choice Item Analyses, Grade 9 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
55	5	3	7	0.31	0.1	0.58	75	5	3	7	0.43	0.4	0.61
56	5	2		0.44	0.1	0.54	76	5	3	7	0.43	0.3	0.61
57	5	2		0.32	0.1	0.97	77	5	3	7	0.53	0.3	0.83
58	5	3	8	0.29	0.1	0.29	79	5	2	5	0.48	0.3	0.78
59	5	3	8	0.41	0.3	0.59	80	5	2	7	0.39	0.4	0.73
60	5	3	8	0.32	0.1	0.78	81	5	2	5	0.31	0.3	0.57
61	5	3	8	0.20	0.2	0.66	82	5	2		0.51	0.4	0.71
62	5	3	8	0.35	0.4	0.72	83	5	2	5	0.34	0.3	0.63
63	5	3	8	0.49	0.2	0.66	84	5	2	5	0.48	0.3	0.78
64	5	3	8	0.27	0.5	0.75	85	5	2	5	0.51	0.3	0.67
65	5	3	7	0.43	0.1	0.74	86	5	2	5	0.52	0.4	0.84
66	5	3	7	0.23	0.6	0.50	87	5	2	8	0.57	0.4	0.86
67	5	3	7	0.50	0.1	0.84	88	5	2	8	0.52	0.4	0.71
68	5	3	7	0.53	0.2	0.66	89	5	2	5	0.51	0.4	0.89
69	5	3	7	0.43	0.1	0.55	90	5	3	7	0.39	0.4	0.52
70	5	3	7	0.57	0.2	0.67	91	5	3	7	0.35	0.7	0.56
71	5	3	7	0.43	0.2	0.63	92	5	3	7	0.58	0.4	0.79
72	5	3	7	0.49	0.4	0.69	93	5	3	7	0.45	0.4	0.57
73	5	3	7	0.33	0.2	0.35	94	5	3	7	0.51	0.4	0.74
74	5	3	7	0.40	0.3	0.43	95	5	2	5	0.52	0.5	0.77

Mean R_ITT: 0.43
Mean p-value: 0.67

Table 68. Constructed-Response Item Analyses, Grade 9 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.15	1.15	98.85	.	.	.	0.0	0.99
2	A	2	3	8	0.44	44.33	54.38	.	.	.	1.3	0.54
2	B	2	3	7	0.40	33.28	65.43	.	.	.	1.3	0.65
2	C	2	3	8	0.32	83.16	15.56	.	.	.	1.3	0.16
2	D	2	3	7	0.49	59.79	38.92	.	.	.	1.3	0.39
2	E	2	3	8	0.44	49.24	49.47	.	.	.	1.3	0.49
2	F	2	3	8	0.42	74.98	23.73	.	.	.	1.3	0.24
3	A	2	2	6	0.65	1.31	4.94	50.37	41.53	1.52	0.3	0.59
3	B	2	2	6	0.66	0.02	6.10	52.10	39.81	1.68	0.3	0.59
3	C	2	3	6	0.55	0.06	16.51	83.13	.	.	0.3	0.91
78		5	2	5	0.62	0.38	5.20	45.53	38.93	7.36	2.6	0.61
96		5	2	5	0.64	0.34	8.61	48.92	30.90	6.28	4.9	0.56
117		6	2	5	0.63	0.69	10.37	51.68	29.37	5.10	2.8	0.56

Mean R_ITT: 0.49
Mean p-value: 0.56

Table 69. Multiple-Choice Item Analyses, Grade 9 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	3	2	0.42	0.2	0.61	31	2	2		0.36	0.3	0.64
2	1	1/6		0.36	0.6	0.62	33	2	4/5		0.22	0.5	0.47
3	1	2	1	0.52	0.5	0.66	34	2	4/5		0.30	0.4	0.75
5	1	1/6		0.30	0.2	0.11	35	2	3		0.53	0.4	0.49
6	1	2		0.33	0.1	0.84	37	2	2		0.40	0.9	0.25
7	1	2	1	0.51	0.2	0.32	38	2	1/6		0.44	0.8	0.76
8	1	3		0.41	0.2	0.50	39	2	3		0.16	0.5	0.25
9	1	4/5		0.29	0.4	0.28	41	3	1/6		0.46	0.3	0.71
11	1	3		0.38	0.3	0.59	42	3	2		0.41	0.2	0.64
12	1	2	1	0.50	0.4	0.61	43	3	4/5		0.38	0.3	0.63
14	1	4/5	2	0.22	0.7	0.34	45	3	3		0.23	1.5	0.87
16	1	2		0.14	1.7	0.16	46	3	4/5		0.24	0.1	0.17
17	1	3		0.19	1.4	0.23	47	3	4/5		0.13	0.2	0.55
18	1	4/5		0.22	1.2	0.42	49	3	1/6		0.51	0.9	0.38
19	1	3		0.28	1.2	0.69	50	3	4/5		0.43	0.3	0.70
21	2	2	1	0.48	0.1	0.72	51	3	1/6	2	0.44	0.2	0.31
22	2	4/5	2	0.36	0.7	0.40	53	3	1/6		0.40	0.7	0.29
23	2	1/6		0.52	1.0	0.39	55	3	4/5		0.36	0.5	0.57
25	2	3		0.52	0.2	0.32	56	3	2	1	0.27	0.5	0.15
26	2	2		0.45	0.6	0.81	57	3	1/6		-	0.8	-
27	2	1/6		0.33	0.7	0.33	58	3	4/5		0.29	1.2	0.24
28	2	3		0.21	0.5	0.65	59	3	2		0.48	1.2	0.35
30	2	3		0.39	0.2	0.23							

Mean R_ITT: 0.36
Mean p-value: 0.48

Table 70. Constructed-Response Item Analyses, Grade 9 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	1	3		0.63	45.73	41.72	11.03	.	.	1.5	0.32
10	1	2	1	0.72	16.87	50.33	13.67	15.44	.	3.7	0.41
13	1	1/6	2	0.59	69.78	3.71	22.42	.	.	4.1	0.24
15	1	1/6	2	0.54	26.84	52.26	8.39	7.43	.	5.1	0.30
20	1	4/5		0.74	30.99	36.71	18.17	7.63	2.79	3.7	0.27
24	2	2		0.55	75.50	6.27	13.07	.	.	5.2	0.16
29	2	4/5		0.70	38.17	35.95	13.80	9.32	.	2.8	0.31
32	2	3		0.40	58.86	26.43	11.60	.	.	3.1	0.25
36	2	4/5	2	0.62	44.52	41.95	9.39	3.44	.	0.7	0.24
40	2	2	1	0.64	5.74	11.27	41.57	25.46	13.72	2.3	0.56
44	3	1/6		0.61	74.68	4.39	18.88	.	.	2.1	0.21
48	3	3	2	0.77	47.33	22.53	16.15	11.62	.	2.4	0.30
52	3	2	1	0.66	55.37	27.77	11.86	.	.	5.0	0.26
54	3	2	1	0.72	33.45	18.67	21.21	20.53	.	6.1	0.41
60	3	3	1	0.66	15.66	47.30	24.23	6.93	2.05	3.8	0.31

Mean R_ITT: 0.64
Mean p-value: 0.30

Table 71. Multiple-Choice Item Analyses, Grade 10 Reading

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
6	3	4	2	0.40	0.2	0.82	41	4	5		0.14	0.2	0.37
7	3	4	2	0.39	0.3	0.85	42	4	5		0.30	0.2	0.59
8	3	4	2	0.47	0.3	0.93	43	4	5		0.42	0.3	0.60
9	3	5		0.39	0.4	0.90	44	4	5		0.45	1.7	0.57
10	3	1	3	0.37	1.1	0.51	46	4	1	2	0.63	0.6	0.60
11	3	1	3	0.52	1.2	0.79	47	4	1	3	0.49	0.4	0.89
12	3	6	2	0.40	0.3	0.72	48	4	1	3	0.23	0.5	0.53
13	3	5		0.40	0.4	0.77	49	4	5		0.39	0.8	0.44
14	3	5		0.31	0.2	0.53	94	6	6	1	0.53	0.1	0.74
17	3	1	3	0.24	0.2	0.71	95	6	6	1	0.35	0.2	0.65
18	3	6	4	0.36	0.2	0.78	96	6	4	1	0.40	0.1	0.74
19	3	6	4	0.35	0.3	0.70	97	6	1	3	0.46	0.1	0.74
20	3	5		0.39	0.2	0.67	98	6	1	3	0.15	0.3	0.39
21	3	5		0.50	0.2	0.67	99	6	1	3	0.53	0.2	0.60
22	3	5		0.20	0.3	0.79	101	6	4	2	0.39	0.2	0.47
23	3	5		0.47	0.2	0.91	102	6	1	2	0.46	0.2	0.63
24	3	5		0.33	0.3	0.85	103	6	4	2	0.44	0.4	0.61
25	3	5		0.44	0.3	0.44	104	6	4	2	0.49	0.4	0.81
27	4	6	1	0.43	0.2	0.86	105	6	1	3	0.37	0.4	0.40
28	4	4	1	0.54	0.1	0.77	107	6	4	2	0.15	0.4	0.35
29	4	6	1	0.25	0.4	0.44	108	6	5		0.48	0.4	0.56
30	4	6	1	0.48	0.1	0.74	109	6	5		0.45	0.8	0.74
34	4	1	4	0.23	0.3	0.62	110	6	5		0.31	0.6	0.36
35	4	4	4	0.51	0.3	0.63	111	6	4	1	0.57	0.2	0.76
36	4	6	4	0.48	0.2	0.68	112	6	6	1	0.30	0.4	0.66
37	4	4	4	0.45	0.3	0.65	113	6	6	1	0.56	0.3	0.70
38	4	5		0.35	0.3	0.33	114	6	4	1	0.52	0.4	0.79
40	4	5		0.15	0.1	0.33	115	6	1	3	0.25	0.4	0.51

Mean R_ITT: 0.39
Mean p-value: 0.65

Table 72. Constructed-Response Item Analyses, Grade 10 Reading

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	3	6	2	0.54	6.69	27.32	64.44	.	.	1.5	0.78
5	3	6	2	0.59	11.79	39.05	47.40	.	.	1.8	0.67
15	3	1	4	0.58	13.52	25.53	11.45	22.01	22.51	5.0	0.51
16	3	6	4	0.56	25.57	37.51	28.30	.	.	8.6	0.47
31	4	1	1	0.61	22.65	5.64	22.88	45.14	.	3.7	0.62
32	4	4	1	0.63	13.27	1.01	30.68	51.43	.	3.6	0.72
33	4	6	4	0.64	22.38	23.12	14.22	34.65	.	5.6	0.52
39	4	6	4	0.60	30.79	36.57	28.04	.	.	4.6	0.46
45	4	1	2	0.44	34.88	19.22	28.64	8.29	.	9.0	0.34
50	4	1	2	0.71	12.10	11.92	15.01	19.58	32.90	8.5	0.58
93	6	1	1	0.53	17.72	38.33	39.59	.	.	4.4	0.59
100	6	1	2	0.64	34.48	25.29	11.52	20.30	.	8.4	0.36
106	6	4	2	0.68	14.97	11.43	60.37	.	.	13.2	0.66
116	6	4	1	0.66	7.43	6.31	17.90	61.27	.	7.1	0.75

Mean R_ITT: 0.60
Mean p-value: 0.57

Table 73. Multiple-Choice Item Analyses, Grade 10 Writing

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
51	5	3	8	0.52	0.1	0.68	71	5	2	5	0.28	0.3	0.55
52	5	3	8	0.21	0.1	0.71	73	5	2	5	0.50	0.2	0.83
53	5	3	8	0.28	0.3	0.52	74	5	2	7	0.40	0.3	0.76
54	5	3	8	0.30	0.2	0.48	75	5	2	5	0.33	0.2	0.62
55	5	3	8	0.40	0.8	0.41	76	5	2		0.51	0.2	0.74
56	5	3	7	0.45	0.1	0.91	77	5	2	5	0.33	0.2	0.65
57	5	3	7	0.35	0.3	0.59	78	5	2	5	0.48	0.2	0.81
58	5	3	7	0.49	0.3	0.77	79	5	2	5	0.51	0.4	0.88
59	5	3	7	0.42	0.3	0.53	80	5	2	5	0.52	0.4	0.73
60	5	3	7	0.47	0.1	0.86	81	5	3	8	0.36	0.3	0.49
61	5	3	7	0.35	0.2	0.81	82	5	3	8	0.45	0.4	0.51
62	5	3	7	0.49	0.6	0.71	83	5	3	8	0.48	0.5	0.69
63	5	3	7	0.28	0.2	0.47	84	5	2		0.44	0.3	0.71
64	5	3	7	0.49	0.3	0.70	85	5	2		0.41	0.3	0.94
65	5	3	7	0.34	0.2	0.56	86	5	2	8	0.43	0.3	0.63
66	5	3	7	0.43	0.5	0.46	87	5	2	8	0.49	0.4	0.70
67	5	3	7	0.47	0.6	0.57	88	5	2	8	0.41	0.5	0.45
68	5	3	7	0.29	1.0	0.28	89	5	2	5	0.48	0.4	0.68
69	5	3	7	0.45	0.2	0.63	90	5	3	7	0.36	0.4	0.57
70	5	3	7	0.38	0.7	0.53	91	5	3	7	0.54	0.5	0.76

Mean R_ITT: 0.41
Mean p-value: 0.65

Table 74. Constructed-Response Item Analyses, Grade 10 Writing

						Percent of Students Obtaining Score Level						
Item #	Part	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
1		1	2	6	0.15	1.60	98.40	.	.	.	0.0	0.98
2	A	2	3	7	0.34	4.35	94.36	.	.	.	1.3	0.94
2	B	2	3	8	0.33	16.15	82.56	.	.	.	1.3	0.83
2	C	2	3	7	0.50	26.75	71.97	.	.	.	1.3	0.72
2	D	2	3	8	0.29	50.33	48.38	.	.	.	1.3	0.48
2	E	2	3	8	0.46	14.12	84.60	.	.	.	1.3	0.85
2	F	2	3	7	0.45	40.59	58.12	.	.	.	1.3	0.58
3	A	2	2	6	0.60	0.93	2.67	53.71	39.44	2.87	0.4	0.60
3	B	2	2	6	0.65	0.02	5.58	53.62	36.63	3.80	0.4	0.59
3	C	2	3	6	0.56	0.03	15.81	83.80	.	.	0.4	0.92
26		3	2	5	0.68	3.33	8.04	41.92	36.48	7.20	3.0	0.58
72		5	2	5	0.65	0.25	5.62	31.97	50.11	9.04	3.0	0.64
92		5	2	5	0.66	0.50	12.39	42.22	36.05	5.40	3.5	0.57

Mean R_ITT: 0.49
Mean p-value: 0.71

Table 75. Multiple-Choice Item Analyses, Grade 10 Mathematics

Item #	Session	CS	SA	R_ITT	Omit %	p-Value	Item #	Session	CS	SA	R_ITT	Omit %	p-Value
1	1	3		0.40	0.1	0.62	32	2	4/5		0.22	0.3	0.49
2	1	1/6		0.42	0.4	0.60	33	2	1/6		0.27	0.4	0.29
3	1	4/5		0.33	3.7	0.26	34	2	2		0.38	0.5	0.56
5	1	1/6		0.43	0.3	0.60	35	2	3	2	0.26	0.3	0.41
6	1	4/5		0.28	0.1	0.49	37	2	2	1	0.58	0.4	0.57
7	1	3		0.25	0.1	0.75	38	2	1/6		0.35	0.3	0.44
9	1	3	2	0.20	0.3	0.35	39	2	2		0.44	0.3	0.63
10	1	1/6		0.38	0.4	0.61	41	3	1/6		0.46	0.3	0.53
11	1	3		0.42	0.2	0.46	42	3	2		0.37	0.3	0.46
13	1	4/5		0.54	0.2	0.32	43	3	2		0.43	0.3	0.42
14	1	3	2	0.14	0.4	0.24	45	3	1/6		0.56	0.5	0.36
16	1	4/5		0.29	0.7	0.27	46	3	3	1	0.38	0.3	0.75
17	1	2		0.25	0.4	0.20	47	3	1/6		0.22	0.9	0.44
18	1	3		0.31	0.4	0.46	49	3	2	1	0.38	0.3	0.19
19	1	3	2	0.52	0.5	0.31	50	3	4/5		0.42	0.4	0.41
21	2	4/5		0.39	0.3	0.26	51	3	2		0.53	0.5	0.47
22	2	1/6		0.10	0.4	0.35	53	3	2		0.47	0.5	0.53
23	2	4/5		0.32	0.3	0.52	55	3	3	2	0.34	0.5	0.48
25	2	2		0.42	0.4	0.64	56	3	4/5		0.30	1.0	0.30
26	2	1/6		0.50	0.3	0.44	57	3	3	2	0.38	0.6	0.23
27	2	1/6		0.56	0.5	0.53	58	3	2		0.41	0.8	0.56
29	2	2		0.47	0.3	0.31	59	3	4/5		0.52	0.9	0.34
30	2	1/6		0.37	0.4	0.20							

Mean R_ITT: 0.38
Mean p-value: 0.44

Table 76. Constructed-Response Item Analyses, Grade 10 Mathematics

					Percent of Students Obtaining Score Level						
Item #	Session	CS	SA	R_ITT	0	1	2	3	4	Omit %	p-Value
4	1	3		0.62	40.83	45.42	12.39	.	.	1.4	0.35
8	1	1/6		0.62	54.83	28.55	8.51	4.18	.	3.9	0.19
12	1	1/6		0.59	16.06	52.84	27.61	.	.	3.5	0.54
15	1	2	1	0.57	6.66	20.26	34.33	38.19	.	0.6	0.68
20	1	2		0.78	46.80	24.83	7.47	10.53	6.11	4.3	0.24
24	2	2		0.62	69.95	6.52	18.37	.	.	5.2	0.22
28	2	3	2	0.52	23.66	45.66	9.83	18.85	.	2.0	0.41
31	2	3	2	0.49	15.37	58.01	24.22	.	.	2.4	0.53
36	2	4/5		0.67	39.70	42.72	11.77	5.22	.	0.6	0.27
40	2	3	1	0.69	9.21	29.46	35.70	12.81	10.88	1.9	0.46
44	3	4/5		0.70	54.31	28.34	11.99	.	.	5.4	0.26
48	3	2	1	0.70	34.32	33.76	8.59	20.80	.	2.5	0.38
52	3	2	1	0.59	35.82	43.00	15.03	.	.	6.1	0.37
54	3	4/5		0.48	45.89	46.15	1.36	1.90	.	4.7	0.18
60	3	4/5		0.68	49.06	33.14	10.16	1.78	0.83	5.0	0.16

Mean R_ITT: 0.62
Mean p-value: 0.35

Table 77. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 3 Reading (N=52,987)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.81	-1.51	0.15	30.8	23	0.38	0.23	0.15	10.9
2	0.56	-1.63	0.15	5.7	24	0.76	-0.59	0.15	4.4
3	1.05	-1.32	0.26	2.3	25	0.71	-0.63	0.13	3.9
5	0.85	0.01	0.47	9.6	26	1.02	-0.25	0.17	14.3
6	0.61	1.78	0.27	14.6	28	0.61	-2.29	0.20	224.5
7	1.00	-1.55	0.13	6.8	29	0.62	-1.21	0.09	0.2
8	0.81	-1.15	0.10	10.7	30	0.92	2.30	0.22	11.9
10	0.75	-1.44	0.04	3.5	31	0.85	-0.51	0.14	7.2
12	0.60	-0.03	0.16	18.3	32	1.01	-1.24	0.18	1.9
13	0.88	-1.52	0.07	24.7	33	0.76	-1.53	0.15	108.0
14	0.88	0.13	0.24	10.4	35	1.05	-1.82	0.09	7.3
15	0.95	-0.62	0.17	10.3	36	0.97	-0.68	0.23	8.5
17	0.87	-0.62	0.24	24.1	37	1.02	-0.45	0.13	24.8
18	1.20	-0.13	0.16	28.1	38	0.79	-1.61	0.14	17.5
19	1.14	-1.09	0.17	11.2	39	1.26	-0.95	0.14	10.5
20	1.09	-0.50	0.31	12.5	40	0.55	-1.88	0.15	8.5

Table 78. Item Parameter and Fit Summary, Constructed-Response Items, Grade 3 Reading (N=52,987)

Item	f	g1	g2	g3	g4	Fit-Z
4	0.56	1.42	-1.85			33.3
9	0.48	-1.52	0.68	-0.51	-0.68	92.6
11	0.86	0.63	-0.28			44.3
16	0.44	0.23	-0.78	-0.15	-0.10	17.1
21	0.96	0.05	-4.59			22.7
22	0.58	-0.28	0.80			46.4
27	0.70	-1.34	-1.41	-1.07		25.3
34	1.09	-1.55	-1.28			17.6

Table 79. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 3 Spanish Reading (N=1,702)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	1.01	0.66	0.25	0.9	23	1.21	0.90	0.15	4.3
2	0.75	2.10	0.21	-0.7	24	1.07	-2.21	0.20	-0.8
3	0.77	0.19	0.33	-0.1	25	0.65	-0.31	0.20	-0.3
4	0.80	2.59	0.13	-1.1	26	1.02	-1.53	0.20	-0.3
6	0.57	-1.04	0.28	0.5	27	0.88	-1.76	0.20	-0.6
7	0.73	-0.50	0.28	0.1	30	0.65	-2.17	0.20	0.0
8	1.02	-1.72	0.28	1.0	31	0.76	-0.98	0.17	0.8
10	0.69	-0.13	0.22	1.8	32	0.43	-1.26	0.20	1.5
11	0.64	-0.21	0.24	-0.5	34	1.17	-0.99	0.20	-0.1
12	0.73	-1.74	0.28	-0.2	35	0.90	-0.26	0.31	3.5
13	0.77	1.97	0.14	-0.6	36	1.00	-0.22	0.26	1.3
15	0.88	-0.19	0.23	1.1	37	0.61	0.04	0.20	1.2
16	0.61	0.43	0.16	-0.2	38	0.98	-1.02	0.20	3.2
17	0.59	-0.30	0.21	1.2	39	0.77	0.86	0.19	-0.3
18	0.88	0.34	0.14	0.9	40	0.71	-0.76	0.20	-1.2
19	0.86	0.22	0.20	1.0	41	0.74	0.91	0.24	0.5
22	0.47	0.90	0.18	2.2					

Table 80. Item Parameter and Fit Summary, Constructed-Response Items, Grade 3 Spanish Reading (N=1,702)

Item	f	g1	g2	g3	g4	Fit-Z
5	0.62	-1.54	-0.17			-0.6
9	1.08	-0.35	-2.82			-0.4
14	0.98	-0.73	-0.31			0.4
20	1.44	-0.34	0.50			-0.7
21	0.86	0.37	-0.12	1.01		2.8
28	0.97	-2.08	-1.06			1.6
29	0.69	0.10	0.29			4.3
33	1.00	-1.13	0.06			2.4

Table 81. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 3 Writing (N=24,501)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
2	0.51	-0.59	0.20	4.0	21	0.94	-1.55	0.18	1.3
3	0.91	-0.67	0.15	4.4	22	0.90	-2.90	0.20	4.5
4	0.87	0.22	0.46	6.5	23	1.22	-1.67	0.29	1.5
5	0.77	-2.22	0.16	6.5	24	1.30	-1.79	0.25	3.6
6	1.17	-1.01	0.29	6.6	25	0.76	-1.52	0.20	25.0
7	0.73	-1.62	0.20	5.2	26	1.13	-1.64	0.26	1.5
8	0.96	-0.76	0.24	4.0	27	0.91	-0.71	0.30	11.3
9	1.04	-1.24	0.21	1.2	28	0.60	-1.48	0.26	1.9
10	0.79	0.11	0.16	6.2	30	0.84	-1.72	0.20	1.0
11	0.50	-1.52	0.21	7.8	31	1.00	-1.99	0.20	0.7
12	0.71	-0.93	0.44	1.7	32	1.02	-1.95	0.20	1.4
14	0.84	-0.57	0.18	4.4	33	1.04	-1.69	0.20	1.6
15	0.96	-0.41	0.14	5.4	34	0.94	-1.87	0.20	1.1
16	0.69	-0.34	0.20	9.9	35	0.79	-0.73	0.22	3.6
17	0.76	-2.27	0.20	-0.1	36	0.78	0.74	0.32	8.9
18	0.89	-3.12	0.20	4.7	37	0.66	-0.41	0.11	46.5
19	0.91	-1.27	0.20	1.9	38	1.19	-0.79	0.17	6.2
20	1.01	-2.26	0.12	6.1					

Table 82. Item Parameter and Fit Summary, Constructed-Response Items, Grade 3 Writing (N=24,501)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1	A	1.03	-2.20				2.5
1	B	1.14	0.92				9.2
1	C	0.75	-0.35				16.9
1	D	1.18	-1.29				1.2
1	E	0.27	-0.93				43.2
1	F	0.51	-1.74				13.4
13	A	1.18	-3.63	1.80			40.6
13	B	1.89	-4.76				4.9
13	C	1.46	-2.24				-0.3
13	D	2.03	-4.57				3.3
29	A	1.47	-4.25	2.23			38.0
29	B	1.80	-4.38				2.3
29	C	1.60	-2.13				3.5
29	D	1.76	-2.12				7.5
39	A	1.58	-4.57	2.91			31.5
39	B	1.84	-4.39				0.7
39	C	1.50	-1.79				1.5
39	D	1.83	-1.96				11.5

Table 83. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 3 Spanish Writing (N=740)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.79	-1.96	0.20	-0.1	21	0.55	-1.13	0.20	3.2
2	0.93	-0.91	0.20	-1.1	22	0.64	1.27	0.22	-0.3
3	0.62	-2.32	0.20	0.2	23	0.91	-0.97	0.22	-0.9
4	0.61	-0.11	0.20	-0.5	24	0.77	0.61	0.25	0.2
5	1.00	-1.13	0.20	1.3	25	0.37	-0.87	0.20	0.5
6	0.63	-0.94	0.21	1.8	26	0.81	-1.90	0.22	-0.8
8	0.74	-0.04	0.20	0.6	27	0.64	-0.57	0.21	-1.1
9	1.13	0.52	0.32	0.5	28	0.74	-1.39	0.20	-0.7
10	0.55	-0.59	0.20	0.7	29	0.87	-0.46	0.20	1.5
11	1.00	-2.07	0.20	-0.3	30	0.75	-1.13	0.20	0.7
12	0.83	-2.33	0.20	-0.4	32	0.71	-1.54	0.20	0.2
14	1.38	0.93	0.21	0.9	33	0.64	0.32	0.22	-1.0
15	1.27	-0.13	0.24	1.2	34	0.66	-0.06	0.20	-0.5
16	0.99	0.19	0.23	-1.5	35	0.59	-0.69	0.20	0.4
17	0.98	-0.31	0.26	1.5	36	1.03	2.79	0.16	0.7
18	0.99	-0.09	0.23	-0.8	37	0.92	-1.83	0.20	0.8
19	1.16	1.95	0.20	1.0	38	0.81	0.35	0.21	-0.5
20	1.47	1.77	0.26	2.1					

Table 84. Item Parameter and Fit Summary, Constructed-Response Items, Grade 3 Spanish Writing (N=740)

Item	Part	f	g1	g2	g3	g4	Fit-Z
7	A	0.90	-1.64				0.2
7	B	1.46	-2.28				-0.6
7	C	0.96	1.30				0.6
7	D	0.55	-0.59				0.3
7	E	1.21	-0.01				1.2
7	F	0.68	-0.07				-0.3
13	A	0.97	-2.15	0.68			-0.3
13	B	1.44	-1.15				-0.3
13	C	1.36	-1.26				1.7
13	D	1.55	-3.29				-0.4
31	A	1.37	-2.93	0.75			-0.9
31	B	1.62	-1.39				-0.9
31	C	1.89	-1.39				1.4
31	D	2.46	-4.32				-1.7
39	A	1.24	-2.29	0.97			0.5
39	B	1.90	-1.26				-1.2
39	C	1.84	-0.77				-0.6
39	D	2.17	-3.20				-0.8

Table 85. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 3 Mathematics (N=20,800)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.65	-2.08	0.16	-1.0	21	0.59	-1.08	0.32	-1.0
2	0.97	-2.44	0.20	1.6	22	0.69	-0.85	0.13	0.9
3	0.76	-1.89	0.16	12.3	23	0.67	-0.61	0.17	0.0
4	0.65	-0.94	0.12	3.3	25	0.74	-0.79	0.35	4.3
6	1.25	-0.65	0.04	9.1	26	1.07	-2.38	0.12	4.6
7	1.12	-3.60	0.20	6.6	27	1.03	-2.28	0.20	1.0
8	0.65	-4.13	0.20	-0.7	28	0.67	-3.31	0.20	0.9
9	0.82	-3.24	0.20	3.5	29	0.92	-2.47	0.20	2.8
11	0.65	-2.19	0.20	7.2	30	0.83	-0.10	0.24	0.7
12	0.83	-2.89	0.20	6.0	32	0.81	-1.63	0.11	1.9
13	0.94	-0.60	0.34	3.4	33	0.75	-1.84	0.16	0.9
15	0.91	-1.25	0.08	3.3	34	1.03	-3.10	0.20	15.5
16	0.78	-1.93	0.17	1.5	35	0.78	-2.28	0.14	0.4
17	0.94	0.10	0.35	1.4	37	1.20	-1.46	0.05	21.4
18	0.88	0.52	0.07	6.2	38	1.17	-1.95	0.20	0.9
19	0.96	-1.14	0.22	1.0	39	0.83	-1.26	0.20	2.6

Table 86. Item Parameter and Fit Summary, Constructed-Response Items, Grade 3 Mathematics (N=20,800)

Item	f	g1	g2	g3	g4	Fit-Z
5	0.92	1.22	-0.79			10.2
10	0.85	-1.27	-1.08			10.6
14	1.40	-0.62	0.87			22.7
20	0.84	-3.26	-0.55	-0.28		7.0
24	1.31	-3.28	-0.14			5.9
31	0.94	-2.58	-0.63			23.2
36	0.95	-2.33	-0.76			4.9
40	0.86	-0.80	-0.60	-0.74		5.4

Table 87. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 4 Reading (N=24,773)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
4	0.48	-2.09	0.20	27.1	40	1.35	-0.38	0.26	6.9
5	1.14	0.03	0.31	5.1	41	0.84	-0.71	0.18	0.1
6	0.71	-0.34	0.18	0.8	42	0.94	0.65	0.18	2.6
7	0.31	1.62	0.20	4.2	43	0.55	-0.90	0.20	47.4
8	1.08	-0.37	0.26	3.2	45	0.49	-0.86	0.20	10.4
9	0.86	0.59	0.16	15.2	46	0.74	-1.64	0.16	2.7
10	0.67	-1.75	0.16	19.0	48	0.73	0.54	0.12	9.0
11	0.83	-1.92	0.09	7.4	49	0.77	-0.59	0.14	8.6
13	0.49	-0.60	0.12	2.0	93	0.70	-1.56	0.09	0.6
14	0.83	-1.98	0.20	46.0	96	0.47	-1.08	0.20	3.4
15	0.87	-0.42	0.16	3.9	97	0.38	-0.74	0.20	30.0
16	0.84	-0.95	0.15	1.1	98	0.62	-1.47	0.16	17.7
21	1.08	-0.24	0.21	5.7	99	0.84	-2.17	0.20	5.5
22	1.33	-1.83	0.15	2.8	100	1.01	0.17	0.21	2.3
23	1.05	-0.85	0.19	1.0	101	1.04	-1.40	0.25	-0.9
24	0.91	0.37	0.13	8.8	102	0.70	-0.26	0.09	3.0
25	0.41	0.28	0.20	11.3	103	1.21	-0.47	0.23	2.3
26	1.05	-1.47	0.20	4.0	105	0.42	0.61	0.11	26.4
27	1.00	-0.03	0.23	4.7	106	0.98	0.35	0.18	5.0
30	0.40	-0.08	0.14	7.3	107	0.91	-0.54	0.19	3.0
31	0.77	-1.10	0.20	0.4	108	1.39	2.09	0.10	81.0
32	0.79	-1.08	0.17	1.3	109	0.64	-0.41	0.05	2.4
33	0.97	-0.71	0.20	3.2	110	0.85	0.06	0.19	3.7
34	0.64	0.95	0.25	0.8	111	0.57	-0.90	0.07	4.2
35	0.58	-1.04	0.11	3.0	113	1.08	-1.61	0.25	5.6
36	0.97	-0.38	0.21	0.3	114	0.81	-1.88	0.20	9.0
37	0.67	-1.80	0.13	0.5	115	1.04	-0.91	0.22	0.6
38	0.74	1.40	0.17	1.1	116	0.81	-1.32	0.14	12.1

Table 88. Item Parameter and Fit Summary, Constructed-Response Items, Grade 4 Reading (N=24,773)

Item	f	g1	g2	g3	g4	Fit-Z
12	0.89	0.01	-1.07			9.2
17	0.42	4.38	-4.28	0.37		76.9
18	0.61	1.38	0.67	0.16		25.0
19	0.83	-0.76	-0.24			4.2
20	1.26	-1.39	-1.30			1.8
28	0.95	-0.32	-4.84			8.0
29	0.58	-0.61	0.81			14.5
39	0.60	-0.56	0.47	-0.58		33.8
44	0.89	-0.21	0.58			12.1
47	0.65	-0.77	-1.42	0.78	-0.77	9.8
94	1.33	-2.19	-1.29			1.7
95	1.13	-2.30	0.17			19.9
104	0.85	-0.64	-1.36	-1.86		31.4
112	0.86	-0.53	-2.73			5.1

Table 89. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 4 Spanish Reading (N=219)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
4	1.03	0.61	0.18	-0.5	41	0.76	1.63	0.20	-1.0
5	0.22	2.58	0.20	2.7	42	0.59	-1.18	0.20	-1.3
6	0.45	-0.45	0.20	-1.3	43	0.69	0.77	0.19	1.5
7	1.48	1.26	0.27	0.4	44	0.60	3.03	0.15	0.0
8	0.77	1.02	0.26	-0.2	45	0.88	-1.13	0.20	1.3
9	0.94	-0.14	0.21	-0.7	46	1.04	-0.38	0.20	-1.1
10	0.77	0.52	0.26	1.8	47	1.18	-0.07	0.18	-1.2
12	0.48	-0.15	0.20	0.5	48	0.62	0.95	0.13	-1.0
14	0.79	0.47	0.18	0.4	92	0.54	-2.07	0.20	-1.1
16	0.59	-0.34	0.20	2.9	93	0.67	-0.36	0.20	-1.2
17	1.10	-0.16	0.20	0.8	94	0.82	0.77	0.21	-0.5
18	0.43	-1.07	0.20	0.2	95	0.44	-1.27	0.20	1.0
19	0.82	-0.69	0.20	-1.2	96	0.73	-0.98	0.20	0.5
20	0.73	-2.16	0.20	-1.4	97	0.85	0.30	0.21	1.0
21	0.43	0.79	0.20	1.7	98	0.96	-1.07	0.20	-0.5
22	0.85	0.09	0.18	-1.1	99	1.50	-1.41	0.20	-1.2
23	0.73	0.45	0.16	-0.9	100	0.52	1.00	0.18	0.6
24	0.57	0.46	0.20	-0.4	102	1.07	-0.12	0.26	-1.2
25	0.57	0.46	0.20	-0.9	104	0.88	1.48	0.18	-1.1
26	0.84	-0.56	0.21	0.6	105	0.83	0.47	0.24	-0.3
27	0.61	0.24	0.20	0.2	106	0.86	0.65	0.18	-0.7
29	0.68	0.96	0.20	1.2	107	0.86	4.84	0.11	-0.2
30	0.75	-0.38	0.20	-0.3	108	0.72	-0.60	0.20	-0.2
32	0.94	1.52	0.19	1.0	109	0.69	1.65	0.20	0.7
34	1.02	-0.94	0.19	-1.3	110	0.84	-0.08	0.20	-0.2
35	0.76	0.22	0.20	-0.3	111	0.92	2.02	0.21	0.9
36	1.07	-0.26	0.18	0.2	112	0.58	-0.02	0.20	-0.7
37	0.65	0.31	0.20	-0.5	113	0.42	2.65	0.35	0.9

Table 90. Item Parameter and Fit Summary, Constructed-Response Items, Grade 4 Spanish Reading (N=219)

Item	f	g1	g2	g3	g4	Fit-Z
11	0.57	0.68	0.50	-0.71	-2.05	-0.3
13	0.22	1.70	1.19	0.01		-1.9
15	0.99	0.48	0.22			-0.4
28	1.06	-1.36	-0.57	-1.72		-1.7
31	0.91	1.50	0.32			-1.5
33	0.59	0.21	0.65	1.19		-2.0
38	1.22	-1.07	1.00			0.7
39	1.86	0.23				-0.7
40	1.21	-0.87	-0.02	1.31		-1.5
101	0.85	-1.78	-0.25			0.3
103	0.72	1.63	-1.89			-0.8
114	0.60	1.28	0.39	-0.52	1.21	-1.6
115	0.57	2.16	0.03			-1.4
116	0.32	1.63	1.21			-1.2

Table 91. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 4 Writing (N=24,373)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
51	0.55	-1.58	0.20	2.4	72	0.80	-1.61	0.10	16.8
52	1.13	-2.49	0.20	11.6	73	1.27	-1.29	0.24	3.9
53	0.96	-2.37	0.20	5.1	74	0.92	-0.69	0.11	15.2
54	0.60	-1.20	0.13	0.9	75	1.08	-0.99	0.13	17.1
55	0.98	-1.06	0.18	1.0	76	0.80	0.30	0.27	7.3
56	0.81	-0.35	0.34	3.2	77	1.19	-0.65	0.32	5.1
57	1.19	-1.38	0.32	0.9	78	1.21	-1.29	0.25	0.0
58	0.99	-1.59	0.20	0.1	79	0.96	0.85	0.20	5.7
59	1.21	-1.08	0.16	0.5	80	0.87	0.09	0.19	1.0
60	1.02	-2.35	0.14	21.1	81	0.99	-0.71	0.16	3.6
61	0.54	-0.94	0.19	45.7	82	1.16	-0.85	0.24	5.4
62	0.81	-1.10	0.28	1.6	83	1.27	-1.50	0.25	1.4
63	0.62	-0.33	0.20	22.9	84	1.16	-1.37	0.19	3.3
64	1.14	-0.87	0.17	1.3	85	0.84	0.17	0.19	3.2
66	0.76	-0.98	0.14	1.5	86	0.76	0.12	0.14	11.2
67	0.59	-0.31	0.20	6.0	87	0.83	-0.95	0.21	-0.8
68	0.61	0.08	0.14	9.5	88	0.81	-0.99	0.14	12.5
69	0.96	-1.37	0.23	6.2	89	0.91	-1.84	0.28	5.5
70	1.03	-0.91	0.14	2.2	90	0.97	-0.78	0.16	2.5
71	1.03	-0.56	0.24	7.4	91	0.87	-1.34	0.20	3.7

Table 92. Item Parameter and Fit Summary, Constructed-Response Items Grade 4 Writing (N=24,373)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.75	-3.00				3.6
2	A	0.89	-1.47				27.7
2	B	1.43	-2.08				3.3
2	C	0.72	-2.75				0.4
2	D	0.92	-0.86				13.7
2	E	1.14	-3.57				5.4
2	F	1.25	0.84				2.7
3	A	1.27	-3.04	-3.18	-0.66	2.07	144.9
3	B	1.51	-4.94	-3.47	-0.57	2.28	45.4
3	C	1.82	-6.19	-1.54			23.8
50		0.79	-1.43	-2.29	-0.27	1.52	117.4
65		0.95	-2.89	-3.01	-0.39	1.63	38.1
92		0.82	-1.44	-2.23	-0.26	1.62	197.0

Table 93. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 4 Spanish Writing (N=219)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
50	0.75	-0.27	0.20	0.6	70	0.95	0.89	0.20	-0.4
51	0.70	-1.44	0.20	-1.3	71	0.94	-0.03	0.20	-0.4
52	0.55	-1.19	0.21	-0.2	72	0.60	0.53	0.20	-1.3
53	0.94	-1.01	0.20	2.4	73	0.74	0.27	0.21	2.3
54	0.77	0.67	0.21	0.1	74	0.50	-0.19	0.20	0.2
55	0.87	-2.11	0.20	-1.0	75	0.51	1.20	0.20	-1.0
56	0.71	-0.30	0.21	0.6	76	0.67	1.40	0.19	0.1
57	0.66	-0.69	0.20	0.2	77	0.80	0.34	0.19	0.4
58	0.97	-2.01	0.20	-0.2	78	0.54	3.27	0.32	0.0
59	0.41	-2.41	0.20	-0.3	79	0.87	1.14	0.19	0.0
60	0.69	-2.51	0.20	-0.8	80	1.09	1.63	0.16	-0.8
61	0.70	0.99	0.18	0.0	81	0.85	0.22	0.20	0.8
62	0.48	2.13	0.24	-0.1	82	0.67	1.53	0.21	0.0
63	1.26	0.52	0.17	0.5	83	0.71	0.23	0.20	-0.4
64	1.03	-0.64	0.20	-1.1	84	1.06	0.59	0.21	1.4
65	0.79	0.14	0.21	0.1	85	1.26	0.62	0.18	-1.0
66	0.89	-0.11	0.20	-1.0	87	0.68	1.04	0.19	-0.7
67	1.17	-0.44	0.19	-0.1	88	0.97	1.35	0.21	-0.2
68	0.85	0.90	0.20	-0.4	89	1.32	0.27	0.17	-0.7
69	1.18	0.12	0.21	1.3	90	0.56	1.83	0.20	-0.1

Table 94. Item Parameter and Fit Summary, Constructed-Response Items, Grade 4 Spanish Writing (N=219)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.80	-3.97				-1.3
2	A	1.14	1.96				-0.9
2	B	1.47	-2.30				-1.8
2	C	1.06	0.46				-1.1
2	D	0.85	0.79				-1.5
2	E	0.64	0.82				-0.4
2	F	0.23	-1.77				0.2
3	A	0.70	-0.12	-1.37	-0.15	2.62	0.8
3	B	1.59	-5.04	-2.50	-0.01	3.58	-2.2
3	C	1.74	-4.55	1.36			0.6
49		0.62	0.12	-0.75	0.09	1.99	-1.9
86		0.28	3.83	-2.36	0.28	0.90	-1.5
91		0.49	0.29	-1.85	-0.18	0.94	-0.9

Table 95. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 4 Mathematics (N=20,975)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.58	-2.48	0.20	2.0	36	0.46	-0.21	0.20	3.8
2	1.09	-0.71	0.25	-0.1	37	0.64	-2.59	0.20	-0.6
3	0.84	-0.49	0.31	5.0	39	1.30	-0.25	0.50	2.7
4	0.90	-2.91	0.20	3.0	40	1.03	-1.62	0.20	-0.6
5	0.66	-1.51	0.14	4.4	41	1.00	-0.10	0.22	-0.1
6	0.79	-2.26	0.20	8.3	42	0.72	-2.75	0.20	10.5
7	0.65	-2.27	0.20	1.7	43	0.86	0.37	0.14	1.9
9	1.04	-1.30	0.27	0.8	44	0.67	-2.07	0.20	3.4
10	0.72	-2.52	0.20	12.7	45	0.82	-2.22	0.20	1.0
12	0.74	-1.37	0.11	2.6	47	1.10	-0.13	0.16	5.3
13	0.71	-2.35	0.20	-0.3	48	1.21	-1.49	0.31	-0.1
14	0.47	-2.14	0.20	8.6	49	0.44	-4.17	0.20	4.7
16	0.64	-3.51	0.20	8.9	50	1.27	-0.58	0.14	2.5
18	1.03	-3.31	0.20	1.1	51	1.28	-1.12	0.12	2.2
19	0.75	-2.43	0.20	27.9	53	0.48	-3.68	0.20	6.2
20	0.64	-2.97	0.20	-0.5	54	0.95	-1.41	0.19	1.8
21	0.67	-1.75	0.20	0.0	55	0.45	-0.87	0.20	1.3
22	1.31	-0.90	0.05	13.1	57	0.99	-0.36	0.27	7.4
24	0.82	-2.87	0.20	0.2	58	0.60	-2.28	0.20	11.6
25	0.83	0.06	0.06	0.2	60	1.04	-0.57	0.22	4.9
26	0.81	0.54	0.16	1.8	61	0.70	-2.85	0.20	3.5
28	0.42	-2.04	0.20	2.4	62	1.28	-1.56	0.10	5.4
29	0.89	-2.68	0.20	1.7	63	1.00	-0.35	0.15	0.3
30	0.64	-2.75	0.20	9.5	64	0.74	-2.29	0.20	1.0
32	0.73	-2.26	0.18	1.7	66	0.83	-1.22	0.08	3.2
33	0.77	-1.30	0.20	-1.0	67	0.81	-1.20	0.20	0.5
35	0.77	0.44	0.15	0.6	68	0.74	0.72	0.15	1.8

Table 96. Item Parameter and Fit Summary, Constructed-Response Items, Grade 4 Mathematics (N=20,975)

Item	f	g1	g2	g3	g4	Fit-Z
8	0.95	-1.00	0.39			23.6
11	0.78	-1.85	-0.87	-0.12		16.0
15	1.54	-1.25	0.25			6.6
17	0.80	-3.41	-1.32	-1.78		3.2
23	0.98	-0.04	0.55	1.56	0.82	56.3
27	1.39	-4.37	-0.76			4.0
31	0.80	-1.20	-0.46	1.11		67.9
34	1.11	-0.20	-0.56	1.03		32.2
38	1.19	0.36	-0.65			10.3
46	0.97	-2.55	-1.70	-0.47	0.29	13.3
52	0.95	-2.54	-1.12			0.1
56	0.84	-1.53	-1.03	-0.15		3.4
59	1.18	-1.25	-1.22			2.8
65	0.73	-0.57	0.08	-0.07		18.9
69	0.60	-0.19	-0.99	0.15	-1.04	19.5

Table 97. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 5 Reading (N=20,685)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
4	0.45	-0.55	0.20	5.6	42	0.51	-1.28	0.20	18.8
5	0.81	-0.02	0.39	6.5	43	1.17	-0.76	0.22	3.3
6	0.35	-1.63	0.20	0.2	44	0.53	-0.86	0.20	4.2
7	1.29	1.87	0.23	33.3	45	1.09	-0.08	0.10	2.5
8	0.76	-0.05	0.11	6.1	46	0.76	1.03	0.19	1.0
9	0.61	-1.12	0.20	1.7	47	0.46	0.62	0.21	12.7
10	0.73	-1.27	0.20	19.5	48	1.35	0.87	0.37	51.0
11	0.83	0.32	0.23	0.3	49	0.69	0.00	0.22	0.2
13	0.10	3.87	0.20	8.3	94	0.98	0.12	0.40	1.9
14	1.29	-0.61	0.24	1.1	95	1.07	-0.80	0.23	1.5
17	0.22	0.12	0.20	16.4	96	0.95	-0.31	0.33	3.5
18	0.32	0.30	0.16	4.9	97	0.67	-0.10	0.20	0.8
19	0.23	0.75	0.20	4.0	98	0.73	0.69	0.15	5.1
20	0.85	-1.33	0.20	4.9	99	0.58	-1.44	0.13	2.9
21	0.66	-1.53	0.11	2.7	101	0.52	-0.25	0.20	4.2
22	1.02	-0.74	0.29	3.0	102	0.90	0.75	0.40	4.9
23	0.31	1.96	0.20	11.3	103	0.79	-0.62	0.13	-0.8
27	0.72	-0.68	0.20	12.7	104	0.80	-1.39	0.20	11.3
29	1.50	0.47	0.27	7.0	107	0.81	-2.09	0.20	1.9
30	0.60	0.22	0.29	1.8	108	0.79	-0.98	0.20	71.4
31	0.73	-1.20	0.20	-0.8	109	0.66	-1.10	0.20	3.5
32	0.62	0.30	0.24	1.6	110	0.35	-0.82	0.20	43.9
33	0.72	-0.96	0.20	4.2	111	0.68	-1.59	0.20	15.4
34	0.88	-0.72	0.18	3.1	112	0.86	-2.06	0.20	11.6
35	0.75	-1.99	0.20	1.8	113	0.88	0.05	0.26	2.4
36	0.70	0.68	0.17	2.4	114	1.06	-1.51	0.21	1.7
39	0.93	-0.75	0.26	2.2	115	1.10	0.39	0.23	4.6
40	1.11	-1.11	0.14	-0.5	116	0.79	-1.52	0.20	1.7
41	0.65	-0.64	0.24	3.7	117	0.63	0.57	0.18	0.0

Table 98. Item Parameter and Fit Summary, Constructed-Response Items, Grade 5 Reading (N=20,685)

Item	f	g1	g2	g3	g4	Fit-Z
12	1.25	-1.33	-0.41			7.1
15	0.97	-0.97	-0.83	-0.73		25.3
16	0.98	-0.56	0.41			9.2
24	0.74	-0.37	-0.55	-0.07		12.4
25	0.86	-0.71	-0.34			10.2
26	0.90	-1.60	-0.75			8.2
28	0.39	1.27	-1.31	-0.24		19.1
37	0.65	-0.81	0.26	-0.62		23.9
38	0.91	0.81	2.31			14.1
50	0.44	-1.07	-0.17			4.8
51	0.91	0.33	0.99			17.2
100	0.45	0.33	-0.14			4.2
105	1.45	-2.47	-1.91			4.5
106	1.19	-2.69	0.49			35.5

Table 99. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 5 Writing (N=20,422)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
52	0.65	-2.52	0.20	3.3	73	0.98	-0.23	0.25	1.7
53	0.86	-1.41	0.21	-0.7	74	0.57	0.61	0.17	-0.1
54	0.97	-1.20	0.34	2.6	75	0.81	-1.04	0.14	0.5
55	0.70	1.09	0.14	3.4	76	0.57	-0.09	0.13	-0.5
56	0.56	-2.23	0.20	23.3	77	1.53	-0.85	0.27	10.2
57	0.66	1.75	0.15	2.2	78	1.12	-0.67	0.23	3.1
58	0.75	-0.35	0.35	1.7	79	0.80	-0.50	0.15	5.3
59	0.98	-1.46	0.20	2.8	80	0.30	3.31	0.16	5.9
60	1.07	-1.81	0.20	9.8	81	0.80	-1.32	0.20	6.1
61	1.00	-1.64	0.20	8.9	82	0.85	-1.04	0.09	14.4
62	0.47	-0.73	0.20	15.4	83	1.20	-0.75	0.24	2.4
63	0.93	-0.80	0.18	3.7	84	0.94	-1.11	0.21	1.4
64	0.28	0.34	0.20	4.7	85	0.93	-0.50	0.22	0.3
65	1.11	-1.70	0.17	2.3	86	0.42	1.34	0.18	16.8
66	0.41	-0.53	0.13	-0.3	87	0.77	-1.12	0.11	3.3
67	0.65	-0.04	0.12	5.3	88	0.66	-0.66	0.20	-0.7
68	0.43	-0.61	0.20	15.7	89	0.66	-0.06	0.15	9.3
69	0.95	-1.85	0.20	8.1	90	0.64	-0.62	0.19	6.4
71	0.44	-0.28	0.18	4.2	91	0.61	-0.31	0.20	23.2
72	0.88	-1.43	0.13	2.5	92	0.66	-0.27	0.12	6.7

Table 100. Item Parameter and Fit Summary, Constructed-Response Items, Grade 5 Writing (N=20,422)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.54	-6.07				-1.3
2	A	0.81	-0.40				0.6
2	B	1.44	0.46				1.6
2	C	0.55	-2.63				-0.1
2	D	0.91	-1.05				6.3
2	E	1.30	-0.71				0.4
2	F	1.13	0.39				1.5
3	A	0.89	-1.01	-2.19	-0.33	0.79	421.0
3	B	1.44	-6.15	-2.91	-0.35	1.09	10.9
3	C	1.81	-6.69	-2.30			1.5
70		0.89	-2.46	-3.19	-0.83	1.07	51.6
93		0.87	-1.74	-2.66	0.13	1.85	66.9
118		0.86	-2.08	-3.10	-0.49	1.28	37.1

Table 101. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 5 Mathematics (N=20,136)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.45	-2.58	0.20	8.9	35	1.26	-0.06	0.09	2.8
2	1.35	0.89	0.23	5.8	36	0.46	-0.35	0.12	-0.1
4	0.83	-3.30	0.20	0.1	38	1.03	-0.83	0.30	1.7
5	0.98	-1.17	0.30	-0.2	39	0.84	-0.04	0.16	1.2
6	1.04	-1.45	0.24	2.4	40	1.06	-0.66	0.25	-0.1
7	0.54	-2.07	0.20	6.4	41	1.00	-1.08	0.15	0.8
8	0.87	-0.06	0.12	11.3	42	1.20	-0.56	0.24	0.7
10	1.14	-1.54	0.21	0.3	44	1.36	-0.93	0.13	0.5
11	0.85	-1.40	0.15	-1.0	45	0.87	-1.33	0.18	7.0
12	0.75	-0.06	0.35	7.8	47	0.53	-2.04	0.20	7.9
13	0.83	-1.04	0.25	4.2	48	0.81	-1.99	0.20	1.1
14	0.76	-0.83	0.20	6.4	49	0.97	-2.89	0.20	3.0
15	0.87	-1.34	0.10	3.6	50	0.99	-0.67	0.10	0.6
16	1.08	-0.62	0.25	-0.9	52	0.66	0.07	0.15	1.6
17	0.86	0.20	0.27	6.7	53	1.34	-1.79	0.10	3.6
19	0.49	-2.88	0.20	0.6	55	0.77	1.07	0.11	1.5
20	0.81	0.68	0.07	2.3	56	0.50	-1.45	0.20	5.6
21	0.83	-1.44	0.11	1.5	58	1.08	-0.90	0.24	1.9
24	0.63	-2.57	0.20	2.6	59	0.73	-0.10	0.24	1.1
25	0.62	-3.15	0.20	12.7	61	0.77	-0.24	0.22	-0.1
26	0.89	-0.75	0.16	0.1	62	0.95	-1.08	0.16	3.3
27	1.02	-0.78	0.46	1.8	63	0.84	-1.33	0.18	39.5
28	1.12	-1.02	0.09	2.3	64	0.82	-1.89	0.20	-0.1
30	0.47	-1.15	0.13	0.6	65	1.25	-1.54	0.36	4.7
31	0.94	-1.83	0.10	1.5	66	1.33	-0.29	0.15	1.8
32	0.39	-1.66	0.20	6.4	67	0.79	-1.67	0.20	3.5
34	0.78	0.08	0.14	-0.3	68	1.24	0.15	0.22	9.6

Table 102. Item Parameter and Fit Summary, Constructed-Response Items, Grade 5 Mathematics (N=20,136)

Item	f	g1	g2	g3	g4	Fit-Z
3	0.78	-0.80	-0.40			23.9
9	1.36	-4.75	-0.43	0.09		3.9
18	0.76	-1.72	0.01	0.74		21.5
22	0.68	-0.57	-1.74			7.0
23	0.64	-2.01	-0.23	-0.91	-1.50	70.8
29	1.03	-2.41	-1.93			0.7
33	0.61	-0.93	0.07	-0.25		19.4
37	1.31	-1.05	-1.51			2.2
43	0.61	-0.54	-1.11	-1.15		20.2
46	0.75	-4.00	0.46	-0.56	-0.09	16.1
51	0.76	-1.48	-1.01			38.0
54	0.78	-1.94	-1.48	-0.64		0.5
57	0.88	-2.17	-0.75	-1.21		20.4
60	1.23	-2.31	0.18			44.6
69	0.88	-2.05	-1.08	-0.87	-0.30	9.5

Table 103. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 6 Reading (N=33,010)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
4	0.40	-1.99	0.20	22.1	38	0.67	-0.44	0.22	2.0
5	0.53	-1.53	0.20	11.5	39	1.04	-0.67	0.24	1.0
6	0.99	-1.28	0.26	5.3	40	0.91	-0.10	0.25	2.5
7	1.02	-1.66	0.18	5.9	41	1.18	-1.22	0.15	1.0
8	0.98	-0.87	0.27	3.5	46	0.95	-0.92	0.21	1.5
9	0.56	-1.69	0.15	22.4	47	1.28	-1.17	0.14	0.6
10	0.78	0.00	0.24	7.3	48	0.84	-1.03	0.22	1.9
11	1.04	-1.15	0.14	3.5	49	0.69	-0.80	0.31	4.4
12	0.73	-0.07	0.19	3.1	50	1.17	-1.00	0.16	53.4
13	1.47	0.72	0.23	31.5	51	0.58	-0.86	0.22	4.9
14	0.46	2.17	0.23	0.7	53	0.96	-0.31	0.06	2.1
15	1.22	-0.09	0.28	11.4	54	0.68	0.80	0.13	2.0
16	0.89	0.12	0.17	8.4	55	0.79	-0.98	0.13	6.8
17	0.89	-0.95	0.21	4.4	56	0.79	-0.31	0.33	0.3
18	0.62	1.39	0.13	5.4	57	0.72	1.67	0.22	0.9
19	1.26	-0.26	0.14	2.9	58	0.67	0.05	0.16	6.2
20	0.73	0.44	0.19	1.3	103	0.74	1.05	0.20	8.4
21	0.40	-2.23	0.20	18.9	105	1.73	2.46	0.16	83.1
24	0.97	0.98	0.27	13.5	106	0.91	-0.97	0.15	5.3
25	0.70	2.33	0.05		107	0.84	-1.71	0.18	1.3
26	1.37	0.07	0.18	7.3	108	0.28	-0.28	0.20	1.6
27	0.94	-0.77	0.24	13.9	109	0.83	-1.37	0.11	9.1
28	1.34	0.63	0.19	11.3	110	0.78	1.41	0.29	2.7
29	0.89	1.12	0.12	22.6	111	0.78	-0.07	0.19	1.8
32	0.58	-1.26	0.19	24.1	113	0.47	-1.20	0.16	13.9
34	1.41	-0.04	0.28	6.3	114	0.88	-0.67	0.24	-0.5
35	0.63	-0.11	0.28	2.7	115	0.51	0.42	0.19	7.5
36	0.80	-1.44	0.17	6.0	116	0.60	-1.04	0.19	82.7
37	0.86	-1.47	0.08	4.0					

Table 104. Item Parameter and Fit Summary, Constructed-Response Items, Grade 6 Reading (N=33,010)

Item	f	g1	g2	g3	g4	Fit-Z
22	0.44	0.90	-1.11	-0.69		10.5
23	0.98	2.00	0.96			27.1
30	0.86	-0.97	-0.60			10.0
31	0.96	-2.10	-1.32			17.0
33	0.36	1.24	-1.40	-0.44		26.2
42	1.01	-2.07	1.74			11.6
43	0.57	-0.57	-0.31	0.14		24.0
44	0.95	-1.62	-0.46			118.7
45	1.11	0.52	2.23			28.7
52	1.08	-0.22	0.44	1.30		29.0
59	1.01	0.42	0.21			12.2
102	0.84	0.71	0.81			18.6
104	0.77	0.25	-0.04			0.2
112	1.12	-0.29	2.03			32.0

Table 105. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 6 Writing (N=32,760)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
60	1.27	-0.27	0.35	4.7	81	0.77	-1.80	0.20	23.8
61	1.25	-0.44	0.35	4.0	82	0.47	-1.15	0.20	8.9
62	0.99	0.79	0.28	3.3	83	0.99	-1.02	0.13	4.2
63	0.24	0.82	0.20	23.9	84	0.92	-1.41	0.25	2.6
64	0.70	-0.83	0.18	2.4	85	0.82	-1.06	0.17	1.5
65	1.10	-0.69	0.26	3.4	86	0.49	0.06	0.10	2.4
66	1.44	-0.77	0.17	8.0	87	0.70	-0.66	0.13	6.8
67	0.85	0.41	0.22	0.2	88	0.90	-1.05	0.13	4.0
68	0.80	-0.99	0.16	6.3	89	0.73	-0.66	0.07	6.2
69	0.49	0.78	0.31	7.2	90	0.45	0.90	0.20	70.1
70	1.45	-0.97	0.30	8.5	91	1.44	-0.91	0.23	14.9
71	0.49	-0.22	0.16	2.1	92	0.65	-0.48	0.13	18.2
72	1.13	0.73	0.26	4.5	93	1.16	-0.97	0.20	8.4
73	1.07	0.37	0.29	3.3	94	1.08	0.09	0.21	12.4
74	1.30	2.26	0.25	43.4	95	0.66	-0.31	0.19	2.0
75	0.70	-1.72	0.16	14.6	96	0.75	-0.79	0.11	-0.4
76	0.44	2.69	0.21	0.8	97	1.12	-0.03	0.26	5.5
77	1.03	2.56	0.19	3.3	98	0.79	-0.84	0.17	0.8
78	1.16	1.42	0.15	39.7	99	0.53	2.04	0.21	6.9
79	1.14	0.37	0.23	5.4	100	0.85	0.13	0.20	0.7

Table 106. Item Parameter and Fit Summary, Constructed-Response Items, Grade 6 Writing (N=32,760)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.73	-5.64				1.4
2	A	1.21	-1.59				3.0
2	B	1.52	-1.98				3.4
2	C	0.71	-0.13				13.4
2	D	1.36	-0.52				6.6
2	E	1.03	-1.17				4.9
2	F	0.30	1.39				0.1
3	A	0.95	-3.12	-2.88	0.52	2.25	67.2
3	B	1.13	-5.51	-2.89	0.58	2.47	25.2
3	C	1.63	-6.85	-2.38			1.9
80		0.92	-2.68	-2.74	0.42	2.04	46.3
101		0.92	-1.87	-2.79	0.62	1.94	135.6
117		0.91	-1.46	-2.48	0.34	1.88	70.7

Table 107. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 6 Mathematics (N=19,749)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	1.19	0.37	0.20	-0.6	30	0.76	-0.81	0.19	0.7
2	0.75	-0.73	0.21	0.7	32	1.25	-0.33	0.12	2.6
3	0.61	-1.57	0.17	0.3	33	0.85	0.46	0.19	0.9
4	0.66	-2.27	0.20	2.6	34	0.89	0.05	0.12	1.5
6	0.61	-0.03	0.10	-0.6	36	0.38	-0.16	0.11	2.2
8	0.43	-3.02	0.20	-1.0	38	0.44	-1.08	0.20	7.3
9	1.01	-1.28	0.27	0.2	39	0.71	-2.57	0.20	-0.2
10	0.75	1.01	0.07	2.5	41	0.66	-1.13	0.17	9.5
11	0.58	-1.30	0.16	-0.4	42	0.94	0.19	0.08	0.1
13	0.71	0.04	0.05	13.0	43	0.99	0.46	0.20	1.1
14	0.77	-1.81	0.09	2.9	45	0.63	-2.24	0.20	6.6
15	1.03	0.05	0.19	-0.3	46	0.66	-1.87	0.20	2.3
17	0.51	-1.25	0.26	6.7	48	0.49	-1.09	0.20	3.6
18	1.03	-1.12	0.34	4.6	50	0.56	-1.18	0.17	10.0
19	1.00	-0.96	0.50	10.4	51	0.75	-0.08	0.30	-0.8
21	0.99	-0.79	0.30	1.9	53	0.61	-2.27	0.20	1.5
22	0.71	-0.95	0.08	-0.4	54	0.79	-0.75	0.20	0.7
23	1.19	-0.53	0.10	7.8	55	1.70	1.02	0.32	37.5
25	1.08	0.53	0.08	6.8	56	0.95	0.68	0.16	16.1
26	0.52	-1.00	0.20	8.4	57	0.59	-1.71	0.17	4.1
27	0.69	1.13	0.24	2.0	58	0.52	-1.34	0.20	5.3
28	1.09	-0.19	0.39	0.6	59	0.60	-1.04	0.11	5.2
29	0.46	-1.24	0.20	30.0					

Table 108. Item Parameter and Fit Summary, Constructed-Response Items, Grade 6 Mathematics (N=19,749)

Item	f	g1	g2	g3	g4	Fit-Z
5	1.35	-5.36	-1.29	-0.57		4.9
7	0.90	-1.30	-1.00			27.6
12	0.90	-0.59	-0.46			63.3
16	0.79	0.16	-1.12	0.74		50.1
20	0.99	-2.81	-2.33	-1.21	-0.05	25.5
24	0.82	1.45	0.14			21.4
31	0.77	-1.51	0.24	0.87		32.8
35	0.62	-0.99	-1.28	-1.49		25.9
37	1.36	1.22	1.73			5.6
40	1.20	-2.10	0.47	0.63	1.17	61.0
44	1.06	1.07	-0.75			11.4
47	0.89	-1.80	-0.83	2.05		44.2
49	0.89	0.07	-0.12			393.7
52	0.69	-0.73	-0.54	0.51		9.0
60	0.95	-3.93	-1.01	-1.74	-1.05	59.6

Table 109. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 7 Reading (N=32,148)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
6	0.87	0.73	0.29	4.4	42	1.11	-1.02	0.22	0.6
7	0.54	2.13	0.06	1.7	43	1.00	0.71	0.26	6.5
8	1.36	-0.42	0.22	6.3	44	0.44	1.11	0.26	0.0
9	0.91	-1.10	0.33	7.5	46	0.58	-0.25	0.06	1.9
10	1.08	0.27	0.16	6.1	47	0.82	-1.64	0.20	36.8
11	0.84	-1.53	0.20	0.1	48	0.59	-1.43	0.20	3.8
12	0.70	0.99	0.08	7.8	49	0.65	0.84	0.20	2.5
13	1.05	-1.69	0.11	6.5	50	0.56	-0.91	0.13	16.2
14	1.20	0.99	0.25	16.8	52	1.11	-0.62	0.25	2.0
15	0.93	-0.15	0.24	1.3	98	1.13	-1.20	0.14	3.0
16	0.91	-1.04	0.12	3.3	99	0.86	-1.73	0.20	3.8
17	0.57	-1.80	0.13	7.2	100	1.16	-1.17	0.21	1.2
18	1.01	1.45	0.16	30.7	101	0.69	-0.07	0.12	7.6
19	1.15	-0.30	0.31	12.5	102	1.59	-1.84	0.19	5.2
20	0.99	-2.31	0.20	7.4	103	0.80	-0.98	0.21	-0.7
23	0.78	-0.12	0.18	121.7	104	0.38	1.83	0.39	3.1
24	0.68	0.60	0.18	4.1	105	0.75	-1.23	0.20	16.1
27	0.66	-2.10	0.12	2.2	106	1.11	-0.46	0.25	5.6
28	0.68	-1.08	0.18	22.7	107	0.27	0.35	0.20	69.0
29	1.20	0.55	0.20	30.1	108	0.52	-0.39	0.20	111.7
30	0.80	-2.49	0.18	43.7	109	1.20	-0.38	0.12	3.3
31	1.04	-2.20	0.08	26.8	110	0.92	-0.15	0.34	6.8
32	0.42	0.69	0.20	5.1	111	0.41	2.78	0.21	-0.3
33	0.76	-1.55	0.20	3.1	112	1.08	-0.91	0.22	-0.5
34	0.64	-0.77	0.18	23.8	113	1.01	-0.12	0.25	2.4
35	0.76	-0.90	0.17	9.6	114	0.39	-1.73	0.20	37.2
39	1.15	0.34	0.36	2.3	115	0.50	-0.52	0.20	7.6
40	1.25	1.31	0.28	44.2	117	0.67	0.09	0.31	1.4
41	1.32	0.69	0.19	11.8	118	0.59	1.29	0.28	2.7

Table 110. Item Parameter and Fit Summary, Constructed-Response Items, Grade 7 Reading (N=32,148)

Item	f	g1	g2	g3	g4	Fit-Z
4	0.41	0.85	-1.30	-0.84		14.8
5	0.89	1.56	0.64			29.2
21	0.43	-0.07	-0.21	0.08		8.4
22	0.59	-0.41	-0.50			11.8
26	0.70	-1.01	-0.28			21.1
36	0.53	2.84	-4.86	-0.94		33.7
37	0.68	-0.57	-0.61			37.9
38	1.00	-0.40	-1.37			57.1
45	0.73	1.18	-1.27	0.69		15.0
51	0.94	-0.55	-0.60			7.6
95	0.91	-0.52	-0.21			32.2
96	1.13	-0.65	0.26			29.1
97	0.71	-0.96	-0.33			57.6
116	0.71	-1.12	2.45			88.4

Table 111. Item Parameter and Fit Summary,
Multiple-Choice Items,
Grade 7 Writing (N=31,946)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
53	0.24	2.24	0.20	1.3	74	1.43	-1.21	0.27	7.1
54	0.65	-1.52	0.20	4.6	75	0.90	-0.86	0.15	9.5
55	0.80	-0.59	0.19	2.5	76	0.33	1.43	0.40	16.5
56	0.67	-1.64	0.14	1.5	77	0.59	0.45	0.25	0.8
57	0.64	0.02	0.33	5.0	78	0.75	3.70	0.35	4.9
58	0.85	-1.35	0.20	0.3	79	0.30	-1.69	0.20	55.2
59	0.71	-0.04	0.24	0.8	80	0.49	1.04	0.20	12.4
60	0.40	-0.09	0.14	0.0	81	0.82	2.36	0.21	5.7
61	0.91	0.44	0.27	4.1	82	0.98	0.23	0.21	4.5
62	0.69	-0.04	0.10	3.3	83	1.06	2.03	0.24	66.6
63	0.34	0.53	0.15	0.0	84	0.77	1.30	0.14	30.5
64	0.74	1.06	0.18	3.9	85	0.65	0.14	0.15	7.5
65	1.23	-0.91	0.24	1.8	87	0.98	-0.78	0.28	3.5
67	0.93	0.85	0.23	15.8	88	0.97	-0.86	0.24	32.9
68	0.99	-1.35	0.18	1.2	89	1.23	-0.98	0.21	18.9
69	1.11	-0.31	0.21	2.9	90	1.00	0.35	0.26	7.5
70	0.76	-0.23	0.17	0.9	91	0.73	1.82	0.15	38.7
71	0.92	-1.85	0.10	26.4	92	1.02	-0.88	0.15	10.6
72	0.77	-1.38	0.19	44.0	93	0.97	-1.36	0.13	5.8
73	0.68	-0.85	0.20	0.5					

Table 112. Item Parameter and Fit Summary,
Constructed-Response Items,
Grade 7 Writing (N=31,946)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.93	-5.74				-0.7
2	A	1.61	-1.90				6.0
2	B	0.80	-1.23				1.4
2	C	1.13	-1.17				5.2
2	D	1.06	-0.34				0.3
2	E	1.63	-0.81				13.5
2	F	0.80	0.19				-0.2
3	A	1.06	-2.06	-3.12	0.24	2.39	119.2
3	B	1.30	-6.10	-3.26	0.50	2.67	31.9
3	C	1.58	-7.13	-3.02			20.6
25		1.00	-3.23	-2.24	0.22	2.34	62.6
66		1.04	-3.67	-2.54	0.45	2.59	63.1
94		0.97	-2.55	-1.82	0.79	2.43	154.9

Table 113. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 7 Mathematics (N=20,589)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.76	0.05	0.25	0.5	31	1.02	-0.65	0.08	11.1
2	0.95	0.27	0.41	8.2	33	0.73	0.04	0.14	0.0
4	0.62	-0.73	0.20	3.1	35	0.65	-0.92	0.09	-0.1
5	0.54	-0.40	0.09	0.1	36	0.88	0.83	0.18	4.2
6	1.48	0.37	0.32	4.5	37	0.97	-0.82	0.26	1.5
8	0.52	-2.27	0.20	4.8	38	0.55	-0.74	0.09	13.9
9	0.99	0.67	0.21	3.6	39	0.60	-0.75	0.10	-1.0
10	0.43	-3.34	0.20	0.5	41	0.98	-1.47	0.20	5.8
12	1.38	0.82	0.25	9.1	42	0.71	-0.70	0.11	4.1
13	1.45	0.62	0.21	21.8	44	1.01	0.17	0.08	0.1
14	1.13	1.70	0.18	2.1	45	0.92	0.07	0.35	2.2
16	1.15	-0.53	0.08	-0.1	46	0.78	-1.53	0.20	1.3
17	0.69	0.57	0.31	-0.2	47	1.22	0.37	0.32	11.7
18	0.80	0.42	0.15	4.2	48	1.00	-0.63	0.23	0.2
19	0.99	-0.78	0.49	1.0	50	1.18	0.39	0.22	0.4
21	0.85	-0.81	0.27	-0.3	51	1.11	0.58	0.23	1.3
22	0.67	-0.81	0.14	16.8	52	1.26	-0.79	0.24	7.2
23	0.88	-0.36	0.29	-1.4	54	0.29	-2.40	0.20	3.2
24	0.79	-1.09	0.14	0.0	55	1.26	0.06	0.20	2.4
25	0.84	0.81	0.06	5.9	56	1.06	0.12	0.43	1.2
27	2.06	1.36	0.24	59.8	58	1.60	0.15	0.34	1.8
28	1.08	-0.50	0.13	2.6	59	1.15	1.58	0.02	8.5
30	0.57	-3.97	0.20	8.7					

Table 114. Item Parameter and Fit Summary, Constructed-Response Items, Grade 7 Mathematics (N=20,589)

Item	f	g1	g2	g3	g4	Fit-Z
3	0.85	1.29	-0.30			29.9
7	1.35	-0.93	0.25	-0.24		44.9
11	1.12	1.84	0.88			1.6
15	1.58	0.96	2.49	1.26		20.1
20	0.93	-2.71	0.93	2.35	1.00	14.5
26	1.52	0.32	1.44	2.11		18.5
29	1.53	1.08	1.18			2.0
32	0.84	2.10	-1.00			3.9
34	1.17	-3.31	-1.45	0.22		19.8
40	1.18	-1.99	-0.13	0.73	1.54	20.0
43	1.80	-0.66	2.11			46.9
49	1.01	-0.26	-0.53	0.23		11.7
53	1.03	-0.14	-0.35			328.4
57	1.10	-2.12	-0.82	1.81		64.4
60	0.85	-0.66	0.12	0.42	2.66	14.9

Table 115. Item Parameter and Fit Summary,
Multiple-Choice Items,
Grade 8 Reading (N=30,419)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
4	0.84	-1.05	0.20	18.1	40	0.38	-2.35	0.20	4.8
5	1.08	-1.46	0.34	1.6	41	1.01	0.67	0.19	2.3
6	0.67	-1.39	0.20	3.1	87	0.42	-1.92	0.20	44.9
7	0.36	1.05	0.20	9.1	88	0.89	-1.64	0.20	10.1
8	1.22	-1.50	0.19	1.9	89	0.66	-0.19	0.10	3.8
9	1.45	0.44	0.25	10.9	90	0.80	-1.22	0.16	-0.8
11	0.92	-0.06	0.13	2.7	91	1.73	-1.76	0.14	11.9
12	1.29	-0.83	0.19	0.9	92	0.24	0.66	0.20	8.4
13	0.73	-1.68	0.20	2.5	93	0.67	-0.24	0.16	1.9
14	0.74	-0.71	0.19	1.4	94	0.95	-1.33	0.12	3.8
16	0.59	-1.08	0.20	21.8	95	1.03	-0.50	0.21	-0.6
17	0.77	0.21	0.35	4.9	96	0.29	0.26	0.20	93.2
19	0.85	2.35	0.24	0.4	97	0.58	1.83	0.22	7.0
20	0.63	-0.74	0.20	1.6	98	0.59	1.60	0.16	2.5
21	0.98	0.24	0.21	2.4	99	1.15	1.38	0.26	12.9
25	1.32	-1.26	0.40	0.1	100	0.87	1.13	0.22	7.0
26	1.26	-1.28	0.18	-0.2	101	0.89	1.43	0.15	8.2
27	0.59	0.93	0.17	3.2	102	1.24	0.56	0.20	12.9
28	0.44	0.43	0.11	3.3	106	1.05	-0.86	0.31	5.1
29	0.97	-1.05	0.18	0.9	107	1.03	0.17	0.13	1.5
30	0.37	-0.79	0.20	19.4	108	0.47	-2.30	0.20	126.9
31	0.87	-0.33	0.21	2.0	110	0.95	-0.24	0.23	4.9
34	1.14	0.35	0.38	0.5	111	1.30	0.93	0.22	19.3
35	1.07	1.05	0.24	17.7	112	0.78	0.34	0.22	0.3
36	1.38	0.58	0.18	13.5	113	0.84	-0.78	0.24	5.1
37	1.19	-1.12	0.21	1.7	114	0.69	-0.14	0.13	2.0
38	0.95	0.34	0.21	3.3	115	0.98	-0.63	0.23	2.9

Table 116. Item Parameter and Fit Summary, Constructed-Response Items, Grade 8 Reading (N=30,419)

Item	f	g1	g2	g3	g4	Fit-Z
10	0.97	-1.10	-0.69			14.2
15	0.56	1.22	0.35	0.15		12.9
18	0.73	-0.62	-0.86	-0.59		13.7
23	0.79	0.04	0.75			18.3
24	0.62	0.15	-0.01	-0.02		73.1
32	0.84	-0.82	-0.58			45.0
33	1.19	-0.65	-1.22			34.4
39	0.79	0.80	-0.98	0.51		19.3
84	0.89	-0.37	-0.20			34.8
85	1.23	-0.62	0.29			28.6
86	0.74	-0.88	-0.17			67.2
103	0.62	-0.97	-0.50	0.23	1.57	23.9
104	1.12	-0.39	-0.66			16.5
105	0.67	-0.50	-1.10	-0.60	0.21	78.1
109	1.46	1.15	1.57			64.0

Table 117. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 8 Writing (N=30,276)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
42	0.87	-1.11	0.20	3.8	64	0.67	-0.79	0.20	5.6
43	0.85	-1.30	0.20	17.8	65	0.30	1.41	0.20	1.1
44	0.88	-0.30	0.33	0.4	66	0.73	-0.44	0.14	5.9
45	0.59	-1.86	0.15	0.2	67	0.81	-0.95	0.16	11.9
46	0.91	-1.74	0.19	4.6	68	0.70	-0.11	0.14	-0.4
47	0.68	1.28	0.13	31.6	69	0.85	-0.47	0.21	4.1
48	0.53	-0.39	0.12	0.2	70	0.39	0.35	0.10	3.3
50	0.88	-1.06	0.25	0.3	71	1.03	-0.28	0.19	17.2
51	0.67	-0.18	0.31	0.4	72	0.94	-0.90	0.20	3.6
52	0.25	-0.47	0.20	13.1	73	0.72	0.88	0.16	25.8
53	1.24	2.96	0.33	6.0	74	0.58	0.06	0.11	0.0
54	0.24	-2.36	0.20	41.2	75	1.07	-1.03	0.16	12.4
55	0.44	-1.04	0.20	7.2	76	0.88	0.30	0.27	1.7
56	0.32	2.19	0.20	32.5	77	0.75	-0.52	0.16	9.9
58	0.18	0.57	0.20	56.2	78	0.53	-0.92	0.18	18.5
59	1.18	-1.75	0.22	17.8	79	0.64	-0.56	0.16	3.2
60	0.91	-1.27	0.20	2.4	80	1.16	-0.69	0.15	5.7
61	0.83	-0.80	0.10	6.9	81	1.02	-0.69	0.24	4.3
62	1.05	-0.54	0.28	1.6	82	0.61	-0.25	0.20	83.4
63	1.38	-1.37	0.17	12.6					

Table 118. Item Parameter and Fit Summary, Constructed-Response Items, Grade 8 Writing (N=30,276)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		0.91	-5.49				-1.5
2	A	0.98	-1.33				2.2
2	B	0.61	-0.30				11.1
2	C	0.68	0.24				9.9
2	D	0.99	0.71				21.0
2	E	1.01	0.28				9.8
2	F	0.82	-2.48				1.4
3	A	1.33	-5.22	-3.46	-0.04	2.44	34.6
3	B	1.55	-6.66	-3.68	0.01	2.70	31.5
3	C	1.67	-7.40	-2.66			6.8
22		1.17	-3.93	-2.36	-0.01	2.38	73.2
57		1.07	-3.29	-2.33	0.09	2.32	85.0
83		0.99	-2.72	-1.58	0.43	2.44	117.3

Table 119. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 8 Mathematics (N=19,852)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.62	0.30	0.33	6.7	32	0.89	1.46	0.16	2.3
3	1.82	2.67	0.11	22.1	33	2.24	1.06	0.24	38.3
4	0.69	-0.31	0.17	0.2	35	1.32	0.46	0.11	19.7
5	0.76	0.07	0.15	11.8	36	1.48	1.67	0.21	9.8
6	0.27	-0.70	0.20	4.4	37	1.11	0.13	0.24	5.0
8	1.35	1.90	0.05	21.2	38	1.27	-0.13	0.12	0.9
9	1.27	-0.03	0.16	7.1	39	1.20	1.12	0.11	3.2
11	1.26	0.56	0.25	13.4	41	0.62	-1.55	0.20	0.6
12	1.89	0.97	0.24	8.9	42	0.85	0.37	0.46	4.1
13	0.62	-0.34	0.25	0.0	43	0.77	-0.70	0.25	-0.5
14	0.86	-0.11	0.19	56.0	45	0.72	-0.12	0.08	0.5
16	0.53	-1.15	0.20	4.3	46	1.73	1.54	0.20	23.2
17	0.23	-0.21	0.20	3.8	47	1.38	-0.96	0.19	36.1
18	1.03	0.31	0.04	15.6	49	1.19	-0.01	0.47	-0.4
19	0.38	-2.41	0.20	1.7	51	1.11	0.72	0.04	2.3
21	0.51	1.30	0.06	2.3	52	1.10	-0.92	0.23	7.1
22	1.09	1.56	0.26	10.6	54	0.85	-0.54	0.28	6.5
23	0.83	-2.54	0.20	22.1	55	0.82	0.26	0.15	0.1
24	1.04	0.11	0.12	1.8	56	1.12	0.53	0.05	2.4
26	1.12	-0.63	0.32	0.7	57	1.22	0.04	0.15	9.4
27	1.63	1.87	0.20	216.1	58	0.27	-2.93	0.20	8.4
29	0.60	2.34	0.03	6.3	59	1.26	1.29	0.29	6.8
31	1.31	0.18	0.23	3.6					

Table 120. Item Parameter and Fit Summary, Constructed-Response Items, Grade 8 Mathematics (N=19,852)

Item	f	g1	g2	g3	g4	Fit-Z
2	0.65	0.05	-0.61			4.5
7	1.21	-1.53	0.31	-0.42		61.1
10	1.11	1.49	-1.25			13.5
15	0.65	-0.87	2.15	0.56		74.9
20	1.36	-1.01	0.33	1.71	2.54	14.5
25	1.67	2.43	2.16			24.0
28	1.26	-1.58	-1.34	0.46		34.0
30	0.85	2.02	-1.05			4.5
34	1.31	-0.38	1.76	1.89		11.8
40	1.13	-2.20	-0.75	0.45	0.70	23.6
44	1.24	-0.48	-0.11			56.1
48	0.98	-0.52	-1.24	-0.57		37.4
50	0.68	2.33	-1.70			70.3
53	1.14	-0.08	0.22	0.50		43.4
60	0.96	-3.07	-1.33	2.26	-0.34	53.4

Table 121. Item Parameter and Fit Summary,
Multiple-Choice Items,
Grade 8 Science (N=19,495)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.29	-2.76	0.20	-0.6	47	1.42	1.02	0.22	24.2
3	0.93	1.27	0.42	0.2	48	0.83	2.08	0.22	12.5
4	0.59	3.26	0.20	31.1	49	0.83	0.01	0.29	0.0
5	0.91	0.57	0.29	0.4	50	0.88	-2.04	0.20	4.8
6	0.65	-0.48	0.33	-0.5	51	0.65	2.31	0.28	-1.2
7	0.56	2.13	0.37	1.2	52	0.68	0.86	0.26	0.8
8	0.83	1.32	0.21	2.9	53	1.19	0.00	0.15	12.4
10	1.21	-0.32	0.20	1.5	54	1.32	-1.02	0.18	0.9
11	0.47	0.12	0.31	8.0	56	0.92	1.73	0.12	-0.1
12	1.11	0.16	0.22	9.1	59	0.82	1.35	0.12	4.4
13	0.37	1.98	0.20	0.6	60	0.56	-1.13	0.20	4.8
14	0.46	-0.40	0.20	6.0	61	0.64	-1.85	0.20	9.4
15	0.82	-2.00	0.20	3.8	62	0.51	0.40	0.13	1.0
16	0.74	-1.64	0.19	1.4	64	0.86	-2.62	0.20	14.4
17	0.54	0.70	0.28	0.6	65	0.72	-2.10	0.20	6.0
18	1.25	-0.16	0.22	5.3	67	1.41	-1.44	0.16	3.1
26	0.21	0.88	0.20	0.3	68	0.27	-1.91	0.20	5.5
27	0.87	-1.69	0.20	2.3	69	0.59	0.91	0.15	1.0
28	0.30	-1.16	0.20	6.6	70	0.20	2.05	0.20	12.7
30	0.95	1.15	0.24	6.3	71	0.62	-1.39	0.20	1.5
32	0.40	-2.47	0.20	2.7	72	0.72	-2.13	0.20	3.1
34	0.71	-1.56	0.20	31.5	73	0.71	-0.66	0.20	0.6
35	0.75	0.89	0.28	-0.2	74	1.11	-1.24	0.14	6.2
36	0.54	0.09	0.09	-0.6	75	0.63	-1.29	0.20	17.8
37	0.63	1.06	0.30	3.3	76	0.52	-1.50	0.20	0.9
38	0.50	-0.21	0.12	14.9	79	1.35	1.53	0.14	3.1
40	0.87	1.15	0.24	1.0	80	0.70	-1.22	0.20	-0.9
42	0.84	-1.92	0.20	1.3	81	0.64	-2.09	0.20	5.1
43	1.05	-0.59	0.11	4.6	82	0.60	0.52	0.20	-0.1
44	0.87	-1.01	0.15	-1.1	83	1.07	0.52	0.18	4.3
45	1.09	-1.16	0.38	1.9	84	0.81	0.13	0.20	4.2
46	0.67	-0.21	0.14	-0.4					

Table 122. Item Parameter and Fit Summary, Constructed-Response Items, Grade 8 Science (N=19,495)

Item	f	g1	g2	g3	g4	Fit-Z
2	1.47	0.10	2.92			34.1
9	0.93	-0.12	0.64			2.9
19	1.06	-0.03				8.0
20	0.53	-0.02	-0.47	-0.62	0.44	16.4
21	1.39	-0.80				7.4
22	0.65	-0.41				9.9
23	0.91	-0.82				11.1
24	0.93	-1.11	-0.10	0.05		26.0
25	0.57	2.77	-1.07			1.5
29	1.16	0.37	1.10			1.5
31	0.90	1.28				2.5
33	1.37	-0.98	3.42			-0.7
39	1.16	-0.87	0.96			4.4
41	0.34	0.72	1.06			338.3
55	0.84	1.83	2.63			3.3
57	0.50	1.54	-0.95			5.3
63	1.22	1.36	2.44			7.1
66	0.62	-1.27	-1.51			13.8
77	0.84	-0.29				8.5
78	0.75	1.40	3.65			3.0

Table 123. Item Parameter and Fit Summary,
Multiple-Choice Items,
Grade 9 Reading (N=24,203)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
6	1.23	-1.75	0.33	3.6	39	0.62	-1.20	0.09	0.3
7	1.15	-1.87	0.09	3.8	40	0.33	-1.32	0.20	19.9
8	0.59	0.65	0.17	3.2	41	0.90	-0.67	0.18	1.4
9	0.43	-0.19	0.08	1.0	42	0.36	-1.67	0.20	46.8
10	0.91	-1.55	0.11	2.0	43	0.65	-1.03	0.14	5.1
11	0.34	-1.08	0.20	24.3	45	1.01	-1.42	0.05	3.9
12	0.89	-0.70	0.19	-0.5	46	0.50	-0.49	0.24	5.2
15	1.04	-0.41	0.40	6.2	48	0.45	-0.50	0.17	7.9
16	0.72	-1.25	0.17	2.7	49	0.59	0.56	0.11	0.0
17	1.72	-1.67	0.13	2.9	50	0.47	-0.71	0.20	55.1
18	0.84	-1.68	0.09	0.2	51	0.67	-1.37	0.20	1.3
19	1.02	0.74	0.25	2.3	53	0.55	-0.34	0.10	10.5
20	1.19	-0.62	0.22	6.4	54	1.17	1.42	0.17	6.2
21	0.62	-1.29	0.08	1.7	97	0.56	-1.80	0.12	5.4
22	0.54	0.40	0.20	142.3	98	0.87	-1.44	0.15	4.0
24	0.61	-1.49	0.17	49.3	99	1.01	0.99	0.34	3.7
25	0.73	0.04	0.36	10.2	101	0.85	0.79	0.19	14.8
27	0.89	1.83	0.25	1.9	102	0.49	-0.50	0.20	29.1
28	0.63	-1.05	0.20	3.1	105	1.16	-1.44	0.19	3.2
29	1.01	0.11	0.21	2.3	107	1.13	0.89	0.22	3.7
30	0.56	-1.06	0.17	10.7	108	1.01	0.10	0.26	1.4
31	0.81	-0.48	0.11	3.5	109	0.71	0.12	0.16	35.3
32	0.57	0.48	0.28	5.6	110	0.90	-1.24	0.12	24.9
33	1.30	0.97	0.15	9.0	111	1.80	1.01	0.20	31.4
35	0.50	0.58	0.20	1.1	113	1.78	1.59	0.28	40.4
36	0.23	0.53	0.11	1.2	114	1.20	0.30	0.22	4.0
37	0.99	-1.17	0.20	-0.5	115	0.77	-0.83	0.18	12.1
38	0.94	-0.41	0.24	6.6	116	1.31	1.18	0.23	5.8

Table 124. Item Parameter and Fit Summary, Constructed-Response Items, Grade 9 Reading (N=24,203)

Item	f	g1	g2	g3	g4	Fit-Z
4	0.74	-0.41	0.12			20.6
5	0.56	0.11	-0.43	-0.55		46.4
13	1.05	-1.99	-0.50			10.6
14	1.18	-1.85	0.33			72.9
23	0.60	0.65	0.22	-0.31		30.2
26	0.79	-0.82	-1.14	-1.04		10.6
34	0.73	-0.55	1.19	-2.11		48.7
44	0.64	-0.76	0.42	0.62		10.4
47	0.77	0.54	-1.77	0.34		67.2
52	0.89	-0.33	-0.99	-0.69		5.2
100	0.65	1.13	-0.47	0.87		47.4
103	1.08	1.12	1.62			21.5
104	0.91	0.28	0.70			43.3
106	0.93	0.21	1.18	0.50		27.4
112	1.10	-0.11	-0.99			4.7

Table 125. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 9 Writing (N=24,117)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
55	0.57	0.38	0.29	4.3	75	0.71	-0.20	0.16	1.2
56	0.99	0.25	0.22	2.6	76	0.92	0.07	0.27	5.3
57	1.14	-2.51	0.20	3.5	77	1.26	-1.12	0.20	15.6
58	0.92	1.38	0.16	6.8	79	0.88	-1.07	0.14	4.5
59	0.59	-0.21	0.11	0.5	80	0.62	-0.85	0.20	13.8
60	0.45	-1.52	0.20	16.8	81	0.61	0.51	0.29	2.8
61	0.22	-0.80	0.20	4.7	82	0.90	-0.72	0.13	3.6
62	0.52	-0.94	0.17	11.2	83	0.44	-0.46	0.14	5.5
63	0.90	-0.39	0.19	-0.2	84	0.85	-1.14	0.13	22.9
64	0.35	-1.50	0.20	26.4	85	1.33	-0.17	0.28	2.9
65	0.82	-0.67	0.26	0.3	86	1.50	-0.99	0.29	1.2
66	0.31	0.96	0.20	18.9	87	1.85	-1.21	0.17	14.1
67	1.29	-1.12	0.25	0.9	88	1.22	-0.46	0.23	0.6
68	1.63	-0.14	0.29	5.5	89	1.68	-1.40	0.22	33.2
69	1.55	0.40	0.30	23.6	90	0.85	0.48	0.24	1.0
70	1.50	-0.29	0.22	5.8	91	0.55	0.17	0.20	2.8
71	0.68	-0.31	0.15	0.0	92	1.41	-0.91	0.15	8.8
72	0.99	-0.42	0.21	0.5	93	0.78	-0.01	0.14	3.3
73	0.61	1.15	0.12	-0.2	94	1.03	-0.76	0.17	0.6
74	0.86	0.70	0.17	14.3	95	1.19	-0.80	0.21	4.8

Table 126. Item Parameter and Fit Summary, Constructed-Response Items, Grade 9 Writing (N=24,117)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		1.23	-5.45				1.4
2	A	0.98	-0.32				25.0
2	B	0.85	-0.81				24.4
2	C	0.99	1.90				7.1
2	D	1.26	0.49				0.4
2	E	0.95	-0.02				22.1
2	F	1.22	1.44				6.1
3	A	1.61	-4.31	-3.68	0.25	4.81	101.5
3	B	1.80	-7.23	-3.86	0.39	4.96	9.0
3	C	1.86	-7.46	-2.63			6.2
78		1.08	-2.31	-3.01	0.01	2.19	63.0
96		1.07	-1.98	-2.38	0.44	2.19	161.7
117		1.11	-2.74	-2.29	0.50	2.46	59.9

Table 127. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 9 Mathematics (N=22,473)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.61	-0.51	0.11	0.0	30	0.92	1.27	0.08	12.0
2	0.70	-0.09	0.31	0.3	31	0.49	-0.81	0.11	1.7
3	1.16	-0.45	0.19	13.2	33	0.60	1.49	0.34	1.0
5	1.11	1.87	0.05	39.1	34	0.45	-1.54	0.16	2.2
6	0.67	-1.75	0.20	7.4	35	1.00	0.05	0.09	11.2
7	1.19	0.74	0.09	9.4	37	1.13	1.15	0.10	5.0
8	0.76	0.33	0.18	0.8	38	0.98	-0.88	0.26	1.0
9	1.63	1.32	0.20	4.1	39	0.93	2.25	0.21	2.4
11	0.53	-0.51	0.09	1.0	41	0.87	-0.94	0.16	1.4
12	1.28	-0.09	0.26	0.0	42	0.69	-0.42	0.20	1.9
14	0.53	1.82	0.21	0.6	43	1.00	0.20	0.38	0.9
16	1.59	2.15	0.15	3.2	45	0.42	-2.79	0.20	9.5
17	1.06	1.97	0.18	0.3	46	1.04	1.87	0.11	60.8
18	1.50	1.39	0.36	2.3	47	0.14	0.80	0.20	17.8
19	0.37	-1.03	0.20	22.2	49	1.17	0.52	0.12	9.4
21	0.96	-0.92	0.12	0.2	50	0.75	-0.81	0.15	10.0
22	0.79	0.88	0.18	0.8	51	1.17	0.89	0.12	2.8
23	1.06	0.38	0.08	0.8	53	1.55	1.08	0.16	2.2
25	1.03	0.63	0.05	6.7	55	0.98	0.49	0.36	1.6
26	1.09	-1.26	0.17	12.0	56	1.75	1.63	0.09	26.6
27	0.81	1.17	0.16	0.5	58	1.10	1.47	0.15	9.0
28	0.25	-0.80	0.20	36.5	59	1.47	0.70	0.15	7.7

Table 128. Item Parameter and Fit Summary, Constructed-Response Items, Grade 9 Mathematics (N=22,473)

Item	f	g1	g2	g3	g4	Fit-Z
4	1.39	-0.36	2.08			1.7
10	1.42	-2.04	1.39	0.88		30.9
13	0.97	2.86	-1.29			36.4
15	0.79	-0.83	2.01	0.51		148.1
20	1.43	-0.96	1.01	2.01	2.82	6.7
24	1.08	2.29	0.16			14.0
29	1.29	-0.49	1.36	1.53		9.7
32	0.55	0.77	0.99			154.4
36	1.21	-0.37	2.06	2.28		14.6
40	0.98	-1.49	-2.12	0.46	1.15	79.0
44	1.20	2.69	-0.51			10.8
48	1.72	0.07	0.90	1.92		25.5
52	1.53	0.55	1.93			32.6
54	1.18	-0.03	-0.15	0.62		68.4
60	1.16	-1.81	0.63	1.99	2.62	32.4

Table 129. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 10 Reading (N=27,214)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
6	1.08	-0.57	0.45	7.5	41	0.73	2.17	0.30	3.8
7	0.70	-1.60	0.19	9.5	42	0.43	0.06	0.20	24.9
8	1.47	-1.88	0.12	4.4	43	0.75	-0.05	0.20	6.2
9	0.82	-1.87	0.20	4.9	44	1.16	0.26	0.25	4.0
10	1.05	0.55	0.26	4.3	46	1.43	-0.18	0.07	3.8
11	1.19	-0.80	0.25	4.0	47	1.38	-1.33	0.31	1.7
12	0.82	-0.33	0.34	-0.6	48	0.82	1.18	0.40	18.8
13	0.60	-1.35	0.10	2.1	49	0.81	0.64	0.15	11.3
14	0.46	0.45	0.20	87.4	94	0.88	-0.97	0.04	2.0
17	0.33	-1.13	0.20	15.3	95	0.49	-0.62	0.11	10.3
18	0.57	-1.19	0.20	2.8	96	0.60	-0.95	0.20	127.1
19	0.55	-0.68	0.20	9.7	97	0.80	-0.84	0.15	1.8
20	0.72	-0.27	0.25	10.7	98	0.77	2.00	0.31	1.7
21	1.04	-0.30	0.21	0.3	99	1.08	-0.12	0.13	2.4
22	0.26	-2.51	0.20	4.2	101	1.16	0.65	0.23	7.6
23	1.16	-1.90	0.08	3.8	102	1.01	-0.04	0.24	0.0
24	0.55	-1.87	0.20	7.2	103	0.71	-0.18	0.15	46.5
25	1.08	0.55	0.15	4.9	104	0.87	-1.32	0.09	13.9
27	0.83	-1.53	0.17	2.6	105	1.65	0.82	0.21	37.0
28	0.96	-1.04	0.04	7.3	107	1.53	1.50	0.28	37.0
29	0.34	0.86	0.10	5.7	108	1.25	0.23	0.21	11.5
30	1.12	-0.38	0.31	-0.2	109	0.80	-0.75	0.21	13.5
34	0.31	-0.15	0.20	5.6	110	1.32	1.07	0.21	17.6
35	1.01	-0.18	0.17	6.5	111	1.06	-0.99	0.03	23.8
36	0.97	-0.35	0.21	27.3	112	0.41	-0.48	0.20	17.5
37	0.76	-0.38	0.15	1.2	113	1.17	-0.54	0.13	27.1
38	0.71	1.09	0.09	2.6	114	1.32	-0.71	0.29	1.3
40	0.50	2.46	0.24	-0.1	115	0.40	0.71	0.19	-0.2

Table 130. Item Parameter and Fit Summary, Constructed-Response Items, Grade 10 Reading (N=27,214)

Item	f	g1	g2	g3	g4	Fit-Z
4	1.02	-2.13	-0.82			13.5
5	1.13	-1.92	-0.04			61.7
15	0.50	-0.64	0.67	-0.56	0.21	60.2
16	0.95	-0.40	0.62			5.5
31	0.64	1.06	-1.48	-0.50		21.7
32	0.79	1.95	-3.71	-0.41		7.5
33	0.77	-0.26	0.48	-0.50		12.5
39	1.12	-0.41	0.72			38.7
45	0.49	0.71	-0.30	1.50		11.5
50	0.75	-0.11	-0.49	-0.24	-0.22	13.0
93	0.80	-0.95	0.07			42.5
100	0.97	0.28	1.07	0.21		38.9
106	1.20	0.00	-1.38			3.4
116	0.87	-0.12	-1.48	-1.12		14.1

Table 131. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 10 Writing (N=27,130)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
51	1.11	-0.38	0.18	6.3	71	0.35	0.43	0.20	41.7
52	0.48	0.40	0.50	25.2	73	1.04	-1.26	0.13	3.9
53	0.45	0.69	0.23	5.1	74	0.65	-0.96	0.20	11.8
54	0.53	0.79	0.20	15.1	75	0.68	0.29	0.33	3.3
55	0.91	0.72	0.15	4.1	76	0.89	-0.89	0.09	1.4
56	1.22	-1.57	0.26	2.5	77	0.47	-0.42	0.20	18.5
57	0.54	0.02	0.20	1.3	78	0.94	-1.14	0.20	31.0
58	0.97	-0.81	0.21	4.3	79	1.44	-1.35	0.22	19.7
59	0.81	0.29	0.19	2.0	80	0.92	-0.86	0.08	9.9
60	1.38	-0.88	0.44	3.5	81	0.75	0.61	0.23	1.6
61	0.53	-1.63	0.19	19.5	82	0.80	0.23	0.13	2.0
62	0.92	-0.65	0.16	2.4	83	0.81	-0.65	0.12	3.7
63	0.74	1.05	0.29	3.6	84	0.78	-0.58	0.22	5.4
64	0.94	-0.53	0.19	3.3	85	1.41	-1.82	0.33	15.1
65	0.45	-0.09	0.11	10.7	86	0.67	-0.25	0.19	42.9
66	0.97	0.55	0.18	1.7	87	0.88	-0.58	0.16	2.9
67	0.92	0.09	0.17	2.6	88	1.06	0.62	0.20	9.4
68	1.01	1.39	0.15	12.9	89	0.91	-0.45	0.19	4.3
69	0.77	-0.26	0.16	1.7	90	0.53	0.03	0.15	5.2
70	0.49	-0.02	0.07	9.1	91	1.33	-0.65	0.25	8.4

Table 132. Item Parameter and Fit Summary, Constructed-Response Items, Grade 10 Writing (N=27,130)

Item	Part	f	g1	g2	g3	g4	Fit-Z
1		1.01	-4.75				0.5
2	A	1.41	-3.68				1.4
2	B	0.85	-1.86				18.1
2	C	1.32	-1.31				2.1
2	D	0.54	0.08				63.5
2	E	1.39	-2.38				2.0
2	F	1.05	-0.42				1.6
3	A	1.42	-3.59	-4.28	0.37	3.82	230.7
3	B	1.69	-6.57	-3.85	0.52	3.82	14.2
3	C	1.81	-7.29	-2.63			7.5
26		1.20	-1.85	-2.39	0.07	2.46	52.9
72		1.20	-2.52	-2.77	-0.67	2.43	137.4
92		1.20	-2.81	-2.02	0.16	2.80	93.6

Table 133. Item Parameter and Fit Summary, Multiple-Choice Items, Grade 10 Mathematics (N=20,590)

Item	a	b	c	Fit-Z	Item	a	b	c	Fit-Z
1	0.71	-0.16	0.22	2.6	32	0.63	1.57	0.38	0.8
2	0.71	-0.19	0.17	-0.4	33	1.14	1.50	0.20	2.1
3	0.96	1.44	0.15	1.2	34	0.89	0.50	0.32	0.4
5	0.71	-0.25	0.14	0.1	35	0.86	1.41	0.30	5.1
6	1.00	1.18	0.38	-0.5	37	1.37	-0.11	0.13	0.7
7	0.36	-1.56	0.20	6.4	38	1.23	0.97	0.29	7.3
9	0.70	2.03	0.28	2.8	39	0.82	-0.23	0.21	5.6
10	0.71	0.00	0.25	2.9	41	0.91	0.11	0.19	2.9
11	0.66	0.34	0.08	5.2	42	1.51	0.89	0.32	4.6
13	1.05	0.69	0.04	17.4	43	1.01	0.70	0.19	0.3
14	1.76	1.92	0.19	111.7	45	1.09	0.52	0.05	6.5
16	0.89	1.57	0.15	6.0	46	0.69	-0.92	0.20	3.6
17	1.41	1.69	0.13	2.6	47	1.47	1.38	0.38	1.9
18	0.77	1.09	0.28	0.7	49	1.49	1.47	0.09	1.4
19	1.18	0.82	0.08	8.6	50	1.17	0.82	0.21	6.0
21	1.28	1.24	0.13	0.6	51	1.19	0.30	0.14	1.7
22	1.76	2.03	0.32	7.7	53	0.85	0.17	0.17	2.7
23	0.64	0.73	0.27	1.9	55	0.48	0.40	0.12	32.1
25	0.66	-0.56	0.13	14.1	56	0.78	1.45	0.17	-0.1
26	1.33	0.53	0.18	11.3	57	1.04	1.42	0.10	18.5
27	1.27	0.04	0.14	19.4	58	0.93	0.28	0.28	2.1
29	1.11	0.89	0.10	3.1	59	1.03	0.68	0.07	4.7
30	1.76	1.37	0.10	59.9					

Table 134. Item Parameter and Fit Summary, Constructed-Response Items, Grade 10 Mathematics (N=20,590)

Item	f	g1	g2	g3	g4	Fit-Z
4	1.34	-0.45	2.13			2.1
8	1.15	0.60	1.85	2.11		41.6
12	1.26	-1.78	0.97			42.4
15	0.92	-2.21	-0.94	0.09		18.4
20	1.58	0.24	1.75	1.08	2.42	22.2
24	1.23	2.42	-0.10			27.6
28	0.60	-0.88	1.56	-0.27		48.6
31	0.93	-1.72	1.09			34.8
36	1.34	-0.48	1.95	2.37		7.7
40	1.12	-2.26	-0.60	1.40	1.11	26.5
44	1.85	0.60	2.42			15.5
48	1.07	-0.51	1.63	-0.10		73.9
52	1.22	-0.54	1.79			164.6
54	0.82	0.08	3.91	0.60		56.1
60	1.52	0.25	2.32	3.55	3.43	9.2

Table 135. Items Flagged for DIF by Focal Group, in Favor of (+) and against (*)

				Focal Group[1]				
Content	**Grade**	**Item #**	**Item Type**	**F**	**M**	**B**	**H**	**Obs-Pred**
RD	3	16	CR	+	*		+	0.119, -0.132, 0.107
RD	6	33	CR				+	0.102
RD	7	21	CR	+	*		+	0.135, -0.133, 0.124
RD	7	45	CR	+	*			0.130, -0.142
RD	8	24	CR			+		0.131
RD	8	32	CR			+		0.107
RD	8	39	CR	+	*			0.114, -0.120
RD	8	85	CR	*				-0.105
RD	9	34	CR	+	*			0.116, -0.114
RD	9	47	CR				+	0.102
RD	10	15	CR	+	*	+	+	0.131, -0.135, 0.191, 0.155.
RD	10	32	CR	+				0.109
RD	10	33	CR		*			-0.104
RD	10	50	CR			*		-0.101
RD	10	116	CR	+				0.103
WR	4	65	CR		*			-0.108
WR	4	92	CR				+	0.116
WR	6	80	CR	+	*			0.104, -0.107
WR	7	62	MC				*	-0.114
WR	7	66	CR	+	*			0.119, -0.121
WR	8	65	MC			*		-0.103
WR	10	72	CR	+	*	+		0.122, -0.115, 0.103
SPAN WR	4	64	MC	*				-0.119
MA	4	11	CR				*	-0.105
MA	6	16	CR	+	*	+		0.100, -0.102, 0.134
MA	7	49	CR			*		-0.155
MA	7	59	MC	*	*	*	*	-0.107, -0.112, -0.143. -0.148
MA	7	60	CR	+	*	*		0.134, -0.133, -0.100,
MA	8	2	CR			+		0.119
MA	8	27	MC				*	-0.103
MA	8	28	CR	+				0.110
MA	8	40	CR			*		-0.115
MA	9	40	CR	+				0.135
SCI	8	20	CR	+	*			0.194, -0.188

[1]F = Female; M = Male; B = African American; H = Hispanic; + = favoring; * = disfavoring.

Table 136. Overall Estimates of Standard Error of Measurement

Assessment	Standard Error Of Measurement
Grade 3 Reading	26.12
Grade 4 Reading	17.09
Grade 5 Reading	18.93
Grade 6 Reading	18.42
Grade 7 Reading	17.45
Grade 8 Reading	16.81
Grade 9 Reading	14.21
Grade 10 Reading	14.84
Grade 3 Spanish Reading	15.90
Grade 4 Spanish Reading	12.99
Grade 3 Writing	15.79
Grade 4 Writing	15.51
Grade 5 Writing	17.19
Grade 6 Writing	19.47
Grade 7 Writing	22.78
Grade 8 Writing	22.68
Grade 9 Writing	21.68
Grade 10 Writing	23.15
Grade 3 Spanish Writing	18.60
Grade 4 Spanish Writing	14.87
Grade 3 Mathematics	28.65
Grade 4 Mathematics	19.14
Grade 5 Mathematics	18.14
Grade 6 Mathematics	19.46
Grade 7 Mathematics	16.59
Grade 8 Mathematics	16.63
Grade 9 Mathematics	18.70
Grade 10 Mathematics	19.05
Grade 8 Science	16.37

Table 137. Reading Scale Scores and Associated Standard Errors

RD 3		RD 4		RD 5		RD 6		RD 7		RD 8		RD 9		RD 10	
SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE
150	223														
175	196	180	245												
200	171	200	212	220	184										
225	147	225	175	225	179										
250	124	250	143	250	153	260	179								
275	102	275	115	275	130	275	160								
300	82	300	91	300	109	300	133	300	153						
325	65	325	71	325	90	325	110	325	128	330	129				
350	50	350	54	350	74	350	90	350	106	350	111	350	189	370	158
375	39	375	41	375	59	375	74	375	87	375	92	375	150	375	152
400	30	400	31	400	47	400	60	400	70	400	75	400	119	400	123
425	25	425	24	425	37	425	49	425	55	425	61	425	93	425	99
450	21	450	20	450	29	450	39	450	42	450	49	450	72	450	79
475	18	475	16	475	23	475	31	475	32	475	39	475	54	475	61
500	17	500	14	500	19	500	24	500	24	500	29	500	40	500	46
525	17	525	14	525	16	525	19	525	19	525	22	525	28	525	34
550	18	550	13	550	15	550	16	550	16	550	16	550	20	550	24
575	20	575	13	575	14	575	14	575	14	575	14	575	14	575	18
600	23	600	14	600	14	600	14	600	13	600	13	600	11	600	14
625	28	625	16	625	15	625	13	625	13	625	13	625	11	625	12
650	33	650	18	650	16	650	14	650	13	650	13	650	11	650	11
675	39	675	21	675	17	675	14	675	14	675	13	675	11	675	10
700	45	700	24	700	20	700	16	700	15	700	14	700	11	700	11
725	51	725	28	725	23	725	18	725	17	725	16	725	12	725	12
750	60	750	34	750	28	750	20	750	20	750	19	750	14	750	14
775	72	775	44	775	34	775	22	775	25	775	23	775	19	775	17
795	84	800	56	800	41	800	26	800	31	800	28	800	26	800	23
		825	69	825	50	825	33	825	39	825	35	825	35	825	29
		850	84	850	61	850	43	850	47	850	43	850	46	850	37
		875	101	875	73	875	54	875	55	875	53	875	60	875	46
		900	120	900	86	900	67	900	65	900	65	900	76	900	57
		925	140	925	101	925	83	925	76	925	78	925	95	925	70
		940	154	950	117	950	101	950	89	950	94	950	118	950	85
				955	120	970	119	975	104	975	112	975	145	975	103
								980	107	990	123	995	170	999	121

Table 138. Writing Scale Scores and Associated Standard Errors

WR 3		WR 4		WR 5		WR 6		WR 7		WR 8		WR 9		WR 10	
SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE
150	159														
175	128	190	73												
200	99	200	67	220	63										
225	73	225	52	225	60	230	52	240	47						
250	51	250	40	250	46	250	46	250	45	250	41	260	44	270	44
275	35	275	31	275	36	275	39	275	41	275	37	275	41	275	43
300	24	300	24	300	30	300	35	300	38	300	34	300	37	300	38
325	17	325	20	325	26	325	32	325	35	325	32	325	34	325	35
350	14	350	17	350	23	350	28	350	31	350	31	350	31	350	31
375	12	375	15	375	20	375	25	375	28	375	28	375	28	375	28
400	11	400	13	400	17	400	23	400	25	400	26	400	25	400	25
425	12	425	11	425	14	425	20	425	22	425	23	425	24	425	23
450	13	450	12	450	13	450	17	450	20	450	20	450	21	450	21
475	16	475	13	475	13	475	15	475	18	475	19	475	19	475	20
500	19	500	15	500	14	500	15	500	18	500	18	500	17	500	19
525	22	525	18	525	16	525	16	525	18	525	18	525	17	525	19
550	26	550	21	550	18	550	17	550	19	550	18	550	17	550	19
575	32	575	25	575	21	575	18	575	20	575	19	575	17	575	20
600	42	600	31	600	25	600	20	600	21	600	21	600	19	600	21
625	57	625	39	625	30	625	22	625	22	625	23	625	20	625	22
650	80	650	49	650	36	650	24	650	24	650	25	650	23	650	23
675	111	675	63	675	44	675	27	675	26	675	28	675	25	675	25
680	118	700	80	700	54	700	31	700	28	700	30	700	28	700	27
		725	101	725	65	725	37	725	31	725	33	725	30	725	30
		730	106	750	79	750	46	750	35	750	37	750	33	750	33
				775	96	775	56	775	40	775	41	775	36	775	36
				780	100	800	68	800	47	800	49	800	40	800	41
						825	83	825	55	825	59	825	46	825	48
						840	92	850	65	850	72	850	55	850	56
								875	78	875	87	875	67	875	67
								890	87	900	105	900	82	900	81
										910	113	925	100	925	98
												930	104	950	118

Table 139. Spanish Reading and Writing Scale Scores and Associated Standard Errors

SP RD 3		SP RD 4			Sp WR 3		SP WR 4	
SS	**SE**	**SS**	**SE**		**SS**	**SE**	**SS**	**SE**
					250	70		
					275	52		
300	139	300	127		300	39	300	65
325	106	325	98		325	29	325	50
350	79	350	74		350	22	350	36
375	57	375	55		375	18	375	27
400	39	400	39		400	15	400	21
425	25	425	25		425	15	425	19
450	17	450	17		450	14	450	17
475	13	475	12		475	15	475	16
500	12	500	10		500	16	500	14
525	11	525	9		525	18	525	12
550	12	550	9		550	20	550	11
575	14	575	10		575	23	575	12
600	18	600	11		600	26	600	15
625	22	625	15		625	30	625	19
650	30	650	21		650	36	650	25
675	41	675	28		675	44	675	32
700	59	700	37		700	57	700	41
725	85	725	47		725	76	725	51
740	106	750	58		750	101	750	62
		775	70				775	75
		790	77				790	83

Table 140. Mathematics Scale Scores and Associated Standard Errors

MA 3		MA 4		MA 5		MA 6		MA 7		MA 8		MA 9		MA 10	
SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE	SS	SE
150	58														
175	47	180	48												
200	39	200	41	220	51										
225	33	225	33	225	49	240	58								
250	29	250	28	250	42	250	55								
275	26	275	24	275	35	275	47	280	76						
300	24	300	22	300	30	300	41	300	66	310	85				
325	22	325	20	325	26	325	35	325	56	325	75	340	84		
350	22	350	18	350	23	350	30	350	47	350	61	350	77	370	67
375	21	375	16	375	19	375	26	375	40	375	50	375	61	375	65
400	21	400	15	400	17	400	23	400	34	400	40	400	49	400	54
425	22	425	15	425	15	425	21	425	28	425	33	425	39	425	46
450	23	450	15	450	14	450	19	450	23	450	27	450	31	450	39
475	25	475	15	475	14	475	17	475	19	475	22	475	26	475	33
500	27	500	16	500	14	500	16	500	16	500	18	500	22	500	28
525	31	525	18	525	15	525	15	525	14	525	14	525	19	525	23
550	36	550	21	550	16	550	15	550	13	550	12	550	16	550	19
575	43	575	24	575	19	575	15	575	12	575	11	575	14	575	16
600	52	600	28	600	22	600	16	600	11	600	11	600	12	600	14
625	64	625	34	625	26	625	18	625	12	625	11	625	11	625	12
650	78	650	41	650	32	650	21	650	13	650	11	650	11	650	11
675	96	675	50	675	40	675	25	675	16	675	13	675	11	675	11
700	118	700	61	700	49	700	31	700	21	700	16	700	13	700	12
		725	74	725	61	725	38	725	27	725	20	725	16	725	13
		750	89	750	74	750	46	750	36	750	27	750	20	750	16
		775	107	775	90	775	56	775	47	775	39	775	27	775	21
		780	111	800	108	800	68	800	60	800	54	800	36	800	29
						825	81	825	76	825	73	825	47	825	38
						830	84	850	95	850	94	850	61	850	50
								860	104	875	120	875	79	875	65
										890	137	900	100	900	85
												920	120	925	110
														950	141

Table A-1. Math 3 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
150	30	0.05	30	0.05	207	5	0.01	128	0.23	247	12	0.02	334	0.61
154	1	0.00	31	0.06	208	1	0.00	129	0.24	248	11	0.02	345	0.63
156	1	0.00	32	0.06	209	2	0.00	131	0.24	249	11	0.02	356	0.65
158	1	0.00	33	0.06	210	1	0.00	132	0.24	250	10	0.02	366	0.67
159	1	0.00	34	0.06	211	5	0.01	137	0.25	251	12	0.02	378	0.69
161	3	0.01	37	0.07	212	2	0.00	139	0.25	252	7	0.01	385	0.70
163	1	0.00	38	0.07	213	1	0.00	140	0.26	253	10	0.02	395	0.72
165	2	0.00	40	0.07	214	4	0.01	144	0.26	254	11	0.02	406	0.74
168	3	0.01	43	0.08	215	2	0.00	146	0.27	255	9	0.02	415	0.76
169	2	0.00	45	0.08	216	5	0.01	151	0.28	256	10	0.02	425	0.78
171	3	0.01	48	0.09	217	8	0.01	159	0.29	257	20	0.04	445	0.81
172	1	0.00	49	0.09	218	4	0.01	163	0.30	258	13	0.02	458	0.84
174	1	0.00	50	0.09	219	4	0.01	167	0.30	259	11	0.02	469	0.86
175	2	0.00	52	0.09	220	3	0.01	170	0.31	260	13	0.02	482	0.88
178	1	0.00	53	0.10	221	4	0.01	174	0.32	261	12	0.02	494	0.90
181	1	0.00	54	0.10	222	5	0.01	179	0.33	262	8	0.01	502	0.92
182	3	0.01	57	0.10	223	4	0.01	183	0.33	263	20	0.04	522	0.95
184	4	0.01	61	0.11	224	5	0.01	188	0.34	264	17	0.03	539	0.98
185	3	0.01	64	0.12	225	3	0.01	191	0.35	265	14	0.03	553	1.01
186	1	0.00	65	0.12	226	4	0.01	195	0.36	266	15	0.03	568	1.04
187	2	0.00	67	0.12	227	5	0.01	200	0.37	267	12	0.02	580	1.06
188	2	0.00	69	0.13	228	5	0.01	205	0.37	268	7	0.01	587	1.07
189	1	0.00	70	0.13	229	4	0.01	209	0.38	269	13	0.02	600	1.10
190	2	0.00	72	0.13	230	2	0.00	211	0.39	270	14	0.03	614	1.12
191	4	0.01	76	0.14	231	6	0.01	217	0.40	271	16	0.03	630	1.15
192	4	0.01	80	0.15	232	7	0.01	224	0.41	272	10	0.02	640	1.17
193	3	0.01	83	0.15	233	9	0.02	233	0.43	273	17	0.03	657	1.20
194	2	0.00	85	0.16	234	2	0.00	235	0.43	274	20	0.04	677	1.24
195	5	0.01	90	0.16	235	5	0.01	240	0.44	275	20	0.04	697	1.27
196	2	0.00	92	0.17	236	9	0.02	249	0.45	276	16	0.03	713	1.30
197	4	0.01	96	0.18	237	10	0.02	259	0.47	277	20	0.04	733	1.34
198	3	0.01	99	0.18	238	6	0.01	265	0.48	278	18	0.03	751	1.37
199	5	0.01	104	0.19	239	6	0.01	271	0.49	279	31	0.06	782	1.43
200	3	0.01	107	0.20	240	9	0.02	280	0.51	280	24	0.04	806	1.47
201	2	0.00	109	0.20	241	5	0.01	285	0.52	281	23	0.04	829	1.51
202	1	0.00	110	0.20	242	5	0.01	290	0.53	282	16	0.03	845	1.54
203	3	0.01	113	0.21	243	14	0.03	304	0.56	283	22	0.04	867	1.58
204	5	0.01	118	0.22	244	6	0.01	310	0.57	284	27	0.05	894	1.63
205	2	0.00	120	0.22	245	5	0.01	315	0.58	285	28	0.05	922	1.68
206	3	0.01	123	0.22	246	7	0.01	322	0.59	286	30	0.05	952	1.74

Table A-1. Math 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
287	29	0.05	981	1.79	327	70	0.13	2881	5.26	367	119	0.22	7019	12.82
288	32	0.06	1013	1.85	328	97	0.18	2978	5.44	368	131	0.24	7150	13.05
289	28	0.05	1041	1.90	329	72	0.13	3050	5.57	369	136	0.25	7286	13.30
290	33	0.06	1074	1.96	330	76	0.14	3126	5.71	370	136	0.25	7422	13.55
291	21	0.04	1095	2.00	331	79	0.14	3205	5.85	371	153	0.28	7575	13.83
292	47	0.09	1142	2.09	332	71	0.13	3276	5.98	372	138	0.25	7713	14.08
293	37	0.07	1179	2.15	333	79	0.14	3355	6.13	373	160	0.29	7873	14.37
294	33	0.06	1212	2.21	334	78	0.14	3433	6.27	374	161	0.29	8034	14.67
295	32	0.06	1244	2.27	335	87	0.16	3520	6.43	375	148	0.27	8182	14.94
296	26	0.05	1270	2.32	336	74	0.14	3594	6.56	376	149	0.27	8331	15.21
297	33	0.06	1303	2.38	337	89	0.16	3683	6.72	377	165	0.30	8496	15.51
298	37	0.07	1340	2.45	338	80	0.15	3763	6.87	378	173	0.32	8669	15.83
299	42	0.08	1382	2.52	339	86	0.16	3849	7.03	379	202	0.37	8871	16.20
300	40	0.07	1422	2.60	340	71	0.13	3920	7.16	380	183	0.33	9054	16.53
301	39	0.07	1461	2.67	341	94	0.17	4014	7.33	381	176	0.32	9230	16.85
302	34	0.06	1495	2.73	342	96	0.18	4110	7.50	382	168	0.31	9398	17.16
303	42	0.08	1537	2.81	343	104	0.19	4214	7.69	383	175	0.32	9573	17.48
304	40	0.07	1577	2.88	344	84	0.15	4298	7.85	384	164	0.30	9737	17.78
305	38	0.07	1615	2.95	345	102	0.19	4400	8.03	385	196	0.36	9933	18.14
306	37	0.07	1652	3.02	346	93	0.17	4493	8.20	386	177	0.32	10110	18.46
307	53	0.10	1705	3.11	347	95	0.17	4588	8.38	387	176	0.32	10286	18.78
308	43	0.08	1748	3.19	348	100	0.18	4688	8.56	388	147	0.27	10433	19.05
309	37	0.07	1785	3.26	349	94	0.17	4782	8.73	389	189	0.35	10622	19.39
310	36	0.07	1821	3.32	350	108	0.20	4890	8.93	390	184	0.34	10806	19.73
311	56	0.10	1877	3.43	351	106	0.19	4996	9.12	391	170	0.31	10976	20.04
312	48	0.09	1925	3.51	352	95	0.17	5091	9.30	392	180	0.33	11156	20.37
313	54	0.10	1979	3.61	353	128	0.23	5219	9.53	393	191	0.35	11347	20.72
314	61	0.11	2040	3.72	354	124	0.23	5343	9.76	394	186	0.34	11533	21.06
315	62	0.11	2102	3.84	355	116	0.21	5459	9.97	395	205	0.37	11738	21.43
316	56	0.10	2158	3.94	356	117	0.21	5576	10.18	396	196	0.36	11934	21.79
317	71	0.13	2229	4.07	357	110	0.20	5686	10.38	397	209	0.38	12143	22.17
318	62	0.11	2291	4.18	358	112	0.20	5798	10.59	398	225	0.41	12368	22.58
319	56	0.10	2347	4.29	359	129	0.24	5927	10.82	399	217	0.40	12585	22.98
320	65	0.12	2412	4.40	360	138	0.25	6065	11.07	400	210	0.38	12795	23.36
321	71	0.13	2483	4.53	361	133	0.24	6198	11.32	401	226	0.41	13021	23.77
322	59	0.11	2542	4.64	362	148	0.27	6346	11.59	402	206	0.38	13227	24.15
323	66	0.12	2608	4.76	363	156	0.28	6502	11.87	403	249	0.45	13476	24.60
324	80	0.15	2688	4.91	364	122	0.22	6624	12.09	404	214	0.39	13690	25.00
325	60	0.11	2748	5.02	365	141	0.26	6765	12.35	405	229	0.42	13919	25.41
326	63	0.12	2811	5.13	366	135	0.25	6900	12.60	406	224	0.41	14143	25.82

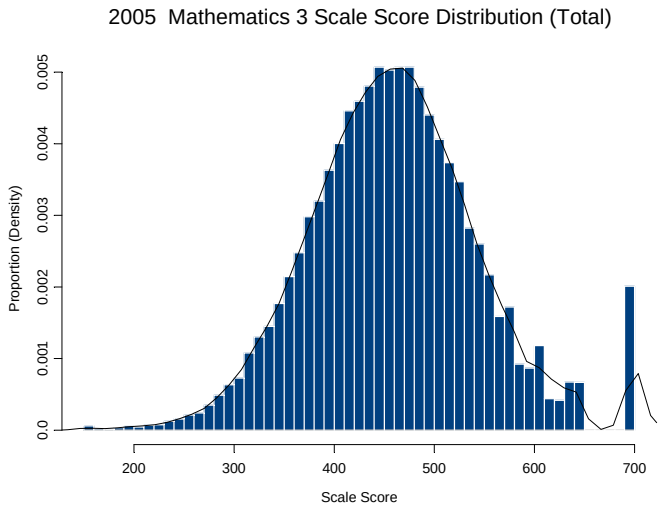
Table A-1. Math 3 Scale Score Distribution (Continued)

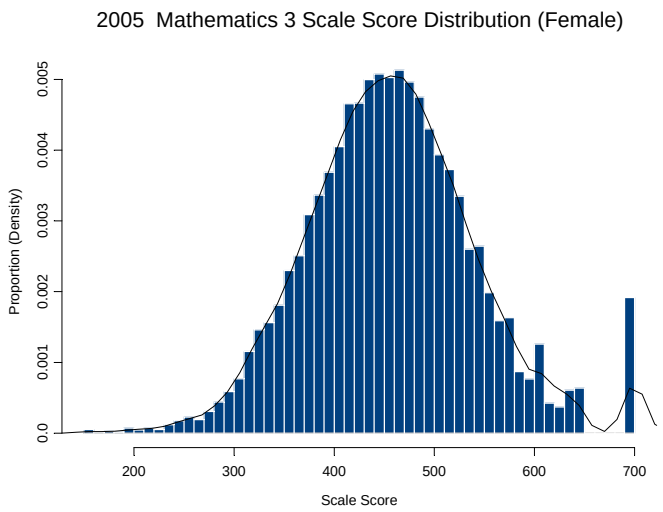
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
407	170	0.31	14313	26.13	447	287	0.52	24527	44.78	487	281	0.51	35528	64.87
408	235	0.43	14548	26.56	448	272	0.50	24799	45.28	488	279	0.51	35807	65.38
409	233	0.43	14781	26.99	449	271	0.49	25070	45.77	489	227	0.41	36034	65.79
410	207	0.38	14988	27.37	450	286	0.52	25356	46.30	490	251	0.46	36285	66.25
411	247	0.45	15235	27.82	451	232	0.42	25588	46.72	491	215	0.39	36500	66.64
412	237	0.43	15472	28.25	452	253	0.46	25841	47.18	492	265	0.48	36765	67.13
413	234	0.43	15706	28.68	453	271	0.49	26112	47.68	493	255	0.47	37020	67.59
414	233	0.43	15939	29.10	454	292	0.53	26404	48.21	494	241	0.44	37261	68.03
415	261	0.48	16200	29.58	455	291	0.53	26695	48.74	495	260	0.47	37521	68.51
416	248	0.45	16448	30.03	456	267	0.49	26962	49.23	496	278	0.51	37799	69.01
417	267	0.49	16715	30.52	457	289	0.53	27251	49.76	497	224	0.41	38023	69.42
418	247	0.45	16962	30.97	458	304	0.56	27555	50.31	498	224	0.41	38247	69.83
419	259	0.47	17221	31.44	459	271	0.49	27826	50.81	499	226	0.41	38473	70.24
420	210	0.38	17431	31.83	460	285	0.52	28111	51.33	500	222	0.41	38695	70.65
421	253	0.46	17684	32.29	461	263	0.48	28374	51.81	501	254	0.46	38949	71.11
422	244	0.45	17928	32.73	462	283	0.52	28657	52.32	502	197	0.36	39146	71.47
423	230	0.42	18158	33.15	463	254	0.46	28911	52.79	503	263	0.48	39409	71.95
424	229	0.42	18387	33.57	464	283	0.52	29194	53.30	504	210	0.38	39619	72.34
425	251	0.46	18638	34.03	465	312	0.57	29506	53.87	505	256	0.47	39875	72.80
426	247	0.45	18885	34.48	466	276	0.50	29782	54.38	506	221	0.40	40096	73.21
427	262	0.48	19147	34.96	467	247	0.45	30029	54.83	507	211	0.39	40307	73.59
428	267	0.49	19414	35.45	468	267	0.49	30296	55.31	508	223	0.41	40530	74.00
429	268	0.49	19682	35.94	469	299	0.55	30595	55.86	509	206	0.38	40736	74.38
430	265	0.48	19947	36.42	470	291	0.53	30886	56.39	510	184	0.34	40920	74.71
431	262	0.48	20209	36.90	471	250	0.46	31136	56.85	511	211	0.39	41131	75.10
432	257	0.47	20466	37.37	472	310	0.57	31446	57.41	512	218	0.40	41349	75.50
433	233	0.43	20699	37.79	473	266	0.49	31712	57.90	513	195	0.36	41544	75.85
434	253	0.46	20952	38.25	474	291	0.53	32003	58.43	514	197	0.36	41741	76.21
435	271	0.49	21223	38.75	475	281	0.51	32284	58.94	515	214	0.39	41955	76.60
436	265	0.48	21488	39.23	476	283	0.52	32567	59.46	516	233	0.43	42188	77.03
437	273	0.50	21761	39.73	477	281	0.51	32848	59.97	517	237	0.43	42425	77.46
438	263	0.48	22024	40.21	478	267	0.49	33115	60.46	518	194	0.35	42619	77.81
439	287	0.52	22311	40.74	479	268	0.49	33383	60.95	519	176	0.32	42795	78.14
440	268	0.49	22579	41.23	480	279	0.51	33662	61.46	520	171	0.31	42966	78.45
441	306	0.56	22885	41.78	481	279	0.51	33941	61.97	521	230	0.42	43196	78.87
442	252	0.46	23137	42.24	482	283	0.52	34224	62.49	522	217	0.40	43413	79.26
443	254	0.46	23391	42.71	483	244	0.45	34468	62.93	523	182	0.33	43595	79.60
444	280	0.51	23671	43.22	484	261	0.48	34729	63.41	524	166	0.30	43761	79.90
445	278	0.51	23949	43.73	485	244	0.45	34973	63.85	525	176	0.32	43937	80.22
446	291	0.53	24240	44.26	486	274	0.50	35247	64.35	526	152	0.28	44089	80.50

Table A-1. Math 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
527	235	0.43	44324	80.93	567	111	0.20	49652	90.66	612	13	0.02	52558	95.96
528	225	0.41	44549	81.34	568	61	0.11	49713	90.77	613	8	0.01	52566	95.98
529	156	0.28	44705	81.62	569	136	0.25	49849	91.02	614	5	0.01	52571	95.99
530	161	0.29	44866	81.92	570	45	0.08	49894	91.10	615	78	0.14	52649	96.13
531	138	0.25	45004	82.17	571	79	0.14	49973	91.24	616	35	0.06	52684	96.19
532	159	0.29	45163	82.46	572	55	0.10	50028	91.34	617	21	0.04	52705	96.23
533	189	0.35	45352	82.80	573	82	0.15	50110	91.49	621	60	0.11	52765	96.34
534	187	0.34	45539	83.15	574	76	0.14	50186	91.63	623	86	0.16	52851	96.50
535	189	0.35	45728	83.49	575	57	0.10	50243	91.73	625	83	0.15	52934	96.65
536	114	0.21	45842	83.70	576	88	0.16	50331	91.90	631	41	0.07	52975	96.72
537	159	0.29	46001	83.99	577	157	0.29	50488	92.18	635	218	0.40	53193	97.12
538	142	0.26	46143	84.25	578	82	0.15	50570	92.33	636	109	0.20	53302	97.32
539	115	0.21	46258	84.46	579	196	0.36	50766	92.69	641	78	0.14	53380	97.46
540	153	0.28	46411	84.74	580	71	0.13	50837	92.82	642	288	0.53	53668	97.99
541	187	0.34	46598	85.08	581	165	0.30	51002	93.12	700	1102	2.01	54770	100.00
542	153	0.28	46751	85.36	582	37	0.07	51039	93.19					
543	121	0.22	46872	85.58	583	50	0.09	51089	93.28					
544	113	0.21	46985	85.79	584	42	0.08	51131	93.36					
545	95	0.17	47080	85.96	585	47	0.09	51178	93.44					
546	121	0.22	47201	86.18	586	34	0.06	51212	93.50					
547	131	0.24	47332	86.42	587	38	0.07	51250	93.57					
548	143	0.26	47475	86.68	588	21	0.04	51271	93.61					
549	206	0.38	47681	87.06	589	35	0.06	51306	93.68					
550	155	0.28	47836	87.34	590	36	0.07	51342	93.74					
551	94	0.17	47930	87.51	591	6	0.01	51348	93.75					
552	116	0.21	48046	87.72	592	38	0.07	51386	93.82					
553	92	0.17	48138	87.89	593	179	0.33	51565	94.15					
554	98	0.18	48236	88.07	594	2	0.00	51567	94.15					
555	86	0.16	48322	88.23	595	92	0.17	51659	94.32					
556	144	0.26	48466	88.49	596	35	0.06	51694	94.38					
557	175	0.32	48641	88.81	597	1	0.00	51695	94.39					
558	170	0.31	48811	89.12	598	53	0.10	51748	94.48					
559	107	0.20	48918	89.32	599	68	0.12	51816	94.61					
560	106	0.19	49024	89.51	600	1	0.00	51817	94.61					
561	58	0.11	49082	89.61	601	12	0.02	51829	94.63					
562	67	0.12	49149	89.74	602	23	0.04	51852	94.67					
563	100	0.18	49249	89.92	604	71	0.13	51923	94.80					
564	66	0.12	49315	90.04	607	234	0.43	52157	95.23					
565	150	0.27	49465	90.31	610	307	0.56	52464	95.79					
566	76	0.14	49541	90.45	611	81	0.15	52545	95.94					

Figure A-1. Math 3 Scale Score Distributions for the Total Population, Female, and Male Students





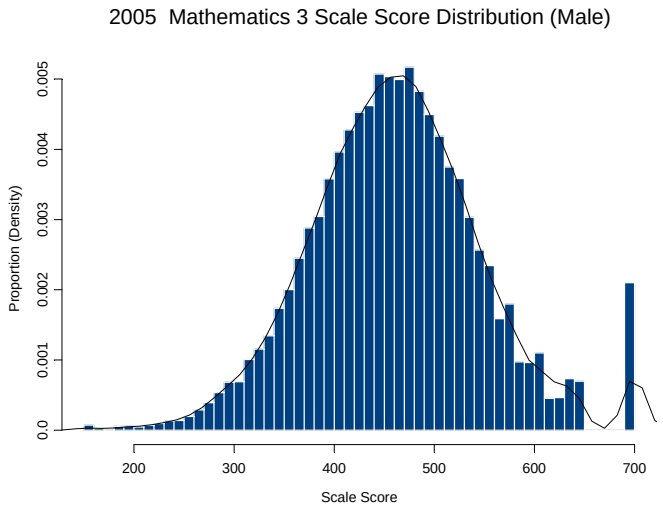


Table A-2. Reading 3 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
150	460	0.87	460	0.87	303	4	0.01	526	0.99	346	9	0.02	660	1.25
236	1	0.00	461	0.87	304	1	0.00	527	0.99	347	5	0.01	665	1.26
240	1	0.00	462	0.87	305	1	0.00	528	1.00	348	6	0.01	671	1.27
247	1	0.00	463	0.87	307	2	0.00	530	1.00	349	3	0.01	674	1.27
251	2	0.00	465	0.88	308	5	0.01	535	1.01	350	6	0.01	680	1.28
252	1	0.00	466	0.88	309	2	0.00	537	1.01	351	10	0.02	690	1.30
253	1	0.00	467	0.88	311	2	0.00	539	1.02	352	8	0.02	698	1.32
255	1	0.00	468	0.88	312	1	0.00	540	1.02	353	7	0.01	705	1.33
256	1	0.00	469	0.89	313	1	0.00	541	1.02	354	8	0.02	713	1.35
257	1	0.00	470	0.89	315	1	0.00	542	1.02	355	8	0.02	721	1.36
258	1	0.00	471	0.89	316	1	0.00	543	1.02	356	7	0.01	728	1.37
262	1	0.00	472	0.89	317	5	0.01	548	1.03	357	9	0.02	737	1.39
263	1	0.00	473	0.89	318	3	0.01	551	1.04	358	12	0.02	749	1.41
266	2	0.00	475	0.90	319	8	0.02	559	1.05	359	9	0.02	758	1.43
268	1	0.00	476	0.90	320	3	0.01	562	1.06	360	6	0.01	764	1.44
269	2	0.00	478	0.90	321	5	0.01	567	1.07	361	8	0.02	772	1.46
270	1	0.00	479	0.90	322	5	0.01	572	1.08	362	7	0.01	779	1.47
271	2	0.00	481	0.91	323	3	0.01	575	1.09	363	7	0.01	786	1.48
272	1	0.00	482	0.91	324	2	0.00	577	1.09	364	5	0.01	791	1.49
273	1	0.00	483	0.91	325	3	0.01	580	1.09	365	5	0.01	796	1.50
275	1	0.00	484	0.91	326	2	0.00	582	1.10	366	7	0.01	803	1.52
277	3	0.01	487	0.92	327	4	0.01	586	1.11	367	9	0.02	812	1.53
278	2	0.00	489	0.92	328	3	0.01	589	1.11	368	12	0.02	824	1.56
280	1	0.00	490	0.92	329	6	0.01	595	1.12	369	1	0.00	825	1.56
282	2	0.00	492	0.93	330	1	0.00	596	1.12	370	7	0.01	832	1.57
283	2	0.00	494	0.93	331	1	0.00	597	1.13	371	15	0.03	847	1.60
284	4	0.01	498	0.94	332	1	0.00	598	1.13	372	11	0.02	858	1.62
285	1	0.00	499	0.94	333	3	0.01	601	1.13	373	15	0.03	873	1.65
286	1	0.00	500	0.94	334	2	0.00	603	1.14	374	12	0.02	885	1.67
287	1	0.00	501	0.95	335	5	0.01	608	1.15	375	10	0.02	895	1.69
288	1	0.00	502	0.95	336	8	0.02	616	1.16	376	21	0.04	916	1.73
289	2	0.00	504	0.95	337	3	0.01	619	1.17	377	12	0.02	928	1.75
293	1	0.00	505	0.95	338	2	0.00	621	1.17	378	18	0.03	946	1.79
294	1	0.00	506	0.95	339	4	0.01	625	1.18	379	13	0.02	959	1.81
297	2	0.00	508	0.96	340	11	0.02	636	1.20	380	14	0.03	973	1.84
298	6	0.01	514	0.97	341	1	0.00	637	1.20	381	9	0.02	982	1.85
299	3	0.01	517	0.98	342	3	0.01	640	1.21	382	14	0.03	996	1.88
300	1	0.00	518	0.98	343	4	0.01	644	1.22	383	21	0.04	1017	1.92
301	1	0.00	519	0.98	344	5	0.01	649	1.22	384	22	0.04	1039	1.96
302	3	0.01	522	0.99	345	2	0.00	651	1.23	385	17	0.03	1056	1.99

Table A-2. Reading 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
386	16	0.03	1072	2.02	426	44	0.08	2252	4.25	466	84	0.16	4734	8.93
387	26	0.05	1098	2.07	427	42	0.08	2294	4.33	467	88	0.17	4822	9.10
388	30	0.06	1128	2.13	428	52	0.10	2346	4.43	468	105	0.20	4927	9.30
389	20	0.04	1148	2.17	429	36	0.07	2382	4.50	469	106	0.20	5033	9.50
390	13	0.02	1161	2.19	430	49	0.09	2431	4.59	470	101	0.19	5134	9.69
391	26	0.05	1187	2.24	431	45	0.08	2476	4.67	471	102	0.19	5236	9.88
392	21	0.04	1208	2.28	432	45	0.08	2521	4.76	472	97	0.18	5333	10.06
393	29	0.05	1237	2.33	433	34	0.06	2555	4.82	473	95	0.18	5428	10.24
394	15	0.03	1252	2.36	434	47	0.09	2602	4.91	474	104	0.20	5532	10.44
395	24	0.05	1276	2.41	435	46	0.09	2648	5.00	475	100	0.19	5632	10.63
396	19	0.04	1295	2.44	436	53	0.10	2701	5.10	476	113	0.21	5745	10.84
397	23	0.04	1318	2.49	437	40	0.08	2741	5.17	477	131	0.25	5876	11.09
398	22	0.04	1340	2.53	438	59	0.11	2800	5.28	478	95	0.18	5971	11.27
399	22	0.04	1362	2.57	439	59	0.11	2859	5.40	479	110	0.21	6081	11.48
400	20	0.04	1382	2.61	440	49	0.09	2908	5.49	480	113	0.21	6194	11.69
401	23	0.04	1405	2.65	441	47	0.09	2955	5.58	481	125	0.24	6319	11.93
402	29	0.05	1434	2.71	442	56	0.11	3011	5.68	482	118	0.22	6437	12.15
403	33	0.06	1467	2.77	443	48	0.09	3059	5.77	483	115	0.22	6552	12.37
404	32	0.06	1499	2.83	444	57	0.11	3116	5.88	484	129	0.24	6681	12.61
405	30	0.06	1529	2.89	445	58	0.11	3174	5.99	485	136	0.26	6817	12.87
406	21	0.04	1550	2.93	446	57	0.11	3231	6.10	486	108	0.20	6925	13.07
407	31	0.06	1581	2.98	447	54	0.10	3285	6.20	487	139	0.26	7064	13.33
408	36	0.07	1617	3.05	448	52	0.10	3337	6.30	488	135	0.25	7199	13.59
409	26	0.05	1643	3.10	449	66	0.12	3403	6.42	489	145	0.27	7344	13.86
410	35	0.07	1678	3.17	450	67	0.13	3470	6.55	490	131	0.25	7475	14.11
411	40	0.08	1718	3.24	451	63	0.12	3533	6.67	491	140	0.26	7615	14.37
412	37	0.07	1755	3.31	452	72	0.14	3605	6.80	492	136	0.26	7751	14.63
413	33	0.06	1788	3.37	453	74	0.14	3679	6.94	493	144	0.27	7895	14.90
414	27	0.05	1815	3.43	454	81	0.15	3760	7.10	494	183	0.35	8078	15.25
415	26	0.05	1841	3.47	455	100	0.19	3860	7.28	495	167	0.32	8245	15.56
416	37	0.07	1878	3.54	456	73	0.14	3933	7.42	496	147	0.28	8392	15.84
417	37	0.07	1915	3.61	457	72	0.14	4005	7.56	497	149	0.28	8541	16.12
418	37	0.07	1952	3.68	458	68	0.13	4073	7.69	498	179	0.34	8720	16.46
419	32	0.06	1984	3.74	459	90	0.17	4163	7.86	499	201	0.38	8921	16.84
420	39	0.07	2023	3.82	460	83	0.16	4246	8.01	500	160	0.30	9081	17.14
421	29	0.05	2052	3.87	461	73	0.14	4319	8.15	501	172	0.32	9253	17.46
422	39	0.07	2091	3.95	462	95	0.18	4414	8.33	502	201	0.38	9454	17.84
423	38	0.07	2129	4.02	463	74	0.14	4488	8.47	503	195	0.37	9649	18.21
424	38	0.07	2167	4.09	464	85	0.16	4573	8.63	504	182	0.34	9831	18.55
425	41	0.08	2208	4.17	465	77	0.15	4650	8.78	505	186	0.35	10017	18.90

Table A-2. Reading 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
506	170	0.32	10187	19.23	546	319	0.60	20982	39.60	586	329	0.62	35018	66.09
507	172	0.32	10359	19.55	547	345	0.65	21327	40.25	587	322	0.61	35340	66.70
508	223	0.42	10582	19.97	548	355	0.67	21682	40.92	588	358	0.68	35698	67.37
509	238	0.45	10820	20.42	549	345	0.65	22027	41.57	589	363	0.69	36061	68.06
510	222	0.42	11042	20.84	550	338	0.64	22365	42.21	590	349	0.66	36410	68.72
511	208	0.39	11250	21.23	551	319	0.60	22684	42.81	591	326	0.62	36736	69.33
512	243	0.46	11493	21.69	552	339	0.64	23023	43.45	592	292	0.55	37028	69.88
513	236	0.45	11729	22.14	553	327	0.62	23350	44.07	593	278	0.52	37306	70.41
514	218	0.41	11947	22.55	554	335	0.63	23685	44.70	594	312	0.59	37618	71.00
515	224	0.42	12171	22.97	555	376	0.71	24061	45.41	595	315	0.59	37933	71.59
516	236	0.45	12407	23.42	556	334	0.63	24395	46.04	596	286	0.54	38219	72.13
517	230	0.43	12637	23.85	557	333	0.63	24728	46.67	597	314	0.59	38533	72.72
518	231	0.44	12868	24.29	558	374	0.71	25102	47.37	598	267	0.50	38800	73.23
519	261	0.49	13129	24.78	559	350	0.66	25452	48.04	599	269	0.51	39069	73.73
520	262	0.49	13391	25.27	560	396	0.75	25848	48.78	600	300	0.57	39369	74.30
521	267	0.50	13658	25.78	561	335	0.63	26183	49.41	601	312	0.59	39681	74.89
522	231	0.44	13889	26.21	562	349	0.66	26532	50.07	602	271	0.51	39952	75.40
523	232	0.44	14121	26.65	563	351	0.66	26883	50.74	603	273	0.52	40225	75.92
524	230	0.43	14351	27.08	564	367	0.69	27250	51.43	604	260	0.49	40485	76.41
525	245	0.46	14596	27.55	565	378	0.71	27628	52.14	605	243	0.46	40728	76.87
526	280	0.53	14876	28.08	566	352	0.66	27980	52.81	606	274	0.52	41002	77.38
527	279	0.53	15155	28.60	567	359	0.68	28339	53.48	607	261	0.49	41263	77.88
528	283	0.53	15438	29.14	568	364	0.69	28703	54.17	608	231	0.44	41494	78.31
529	281	0.53	15719	29.67	569	371	0.70	29074	54.87	609	252	0.48	41746	78.79
530	292	0.55	16011	30.22	570	352	0.66	29426	55.54	610	253	0.48	41999	79.26
531	297	0.56	16308	30.78	571	343	0.65	29769	56.18	611	239	0.45	42238	79.72
532	283	0.53	16591	31.31	572	362	0.68	30131	56.87	612	219	0.41	42457	80.13
533	284	0.54	16875	31.85	573	383	0.72	30514	57.59	613	238	0.45	42695	80.58
534	310	0.59	17185	32.43	574	399	0.75	30913	58.34	614	230	0.43	42925	81.01
535	314	0.59	17499	33.03	575	360	0.68	31273	59.02	615	231	0.44	43156	81.45
536	305	0.58	17804	33.60	576	346	0.65	31619	59.67	616	229	0.43	43385	81.88
537	308	0.58	18112	34.18	577	356	0.67	31975	60.35	617	197	0.37	43582	82.25
538	313	0.59	18425	34.77	578	337	0.64	32312	60.98	618	226	0.43	43808	82.68
539	298	0.56	18723	35.34	579	350	0.66	32662	61.64	619	195	0.37	44003	83.05
540	307	0.58	19030	35.92	580	377	0.71	33039	62.35	620	178	0.34	44181	83.38
541	314	0.59	19344	36.51	581	308	0.58	33347	62.94	621	199	0.38	44380	83.76
542	308	0.58	19652	37.09	582	342	0.65	33689	63.58	622	206	0.39	44586	84.15
543	333	0.63	19985	37.72	583	325	0.61	34014	64.19	623	186	0.35	44772	84.50
544	350	0.66	20335	38.38	584	318	0.60	34332	64.79	624	191	0.36	44963	84.86
545	328	0.62	20663	39.00	585	357	0.67	34689	65.47	625	171	0.32	45134	85.18

Table A-2. Reading 3 Scale Score Distribution (Continued)

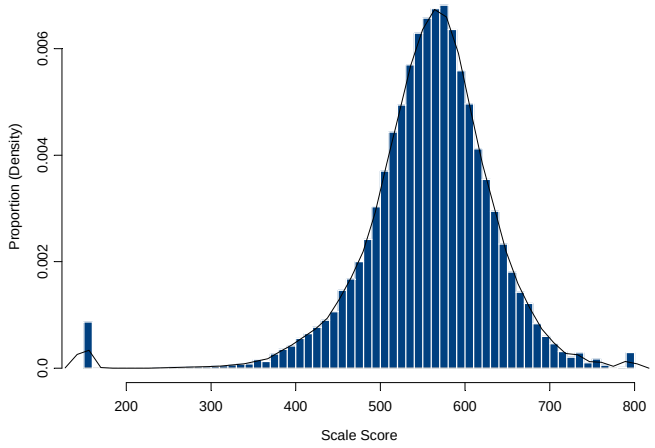
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
626	180	0.34	45314	85.52	666	85	0.16	50329	94.99	706	18	0.03	52131	98.39
627	180	0.34	45494	85.86	667	61	0.12	50390	95.10	707	15	0.03	52146	98.41
628	186	0.35	45680	86.21	668	52	0.10	50442	95.20	708	14	0.03	52160	98.44
629	201	0.38	45881	86.59	669	69	0.13	50511	95.33	709	19	0.04	52179	98.48
630	179	0.34	46060	86.93	670	60	0.11	50571	95.44	710	39	0.07	52218	98.55
631	181	0.34	46241	87.27	671	86	0.16	50657	95.60	711	64	0.12	52282	98.67
632	169	0.32	46410	87.59	672	73	0.14	50730	95.74	712	5	0.01	52287	98.68
633	149	0.28	46559	87.87	673	61	0.12	50791	95.86	713	17	0.03	52304	98.71
634	175	0.33	46734	88.20	674	73	0.14	50864	96.00	714	4	0.01	52308	98.72
635	151	0.28	46885	88.49	675	71	0.13	50935	96.13	715	24	0.05	52332	98.77
636	154	0.29	47039	88.78	676	55	0.10	50990	96.23	716	25	0.05	52357	98.81
637	151	0.28	47190	89.06	677	65	0.12	51055	96.36	717	3	0.01	52360	98.82
638	154	0.29	47344	89.35	678	56	0.11	51111	96.46	718	4	0.01	52364	98.83
639	158	0.30	47502	89.65	679	52	0.10	51163	96.56	719	16	0.03	52380	98.86
640	121	0.23	47623	89.88	680	52	0.10	51215	96.66	720	4	0.01	52384	98.86
641	139	0.26	47762	90.14	681	48	0.09	51263	96.75	721	7	0.01	52391	98.88
642	134	0.25	47896	90.39	682	42	0.08	51305	96.83	722	5	0.01	52396	98.89
643	134	0.25	48030	90.65	683	29	0.05	51334	96.88	723	17	0.03	52413	98.92
644	128	0.24	48158	90.89	684	54	0.10	51388	96.98	724	2	0.00	52415	98.92
645	113	0.21	48271	91.10	685	84	0.16	51472	97.14	725	15	0.03	52430	98.95
646	122	0.23	48393	91.33	686	38	0.07	51510	97.21	726	12	0.02	52442	98.97
647	110	0.21	48503	91.54	687	28	0.05	51538	97.27	727	2	0.00	52444	98.98
648	114	0.22	48617	91.75	688	29	0.05	51567	97.32	728	35	0.07	52479	99.04
649	111	0.21	48728	91.96	689	51	0.10	51618	97.42	729	6	0.01	52485	99.05
650	130	0.25	48858	92.21	690	40	0.08	51658	97.49	730	9	0.02	52494	99.07
651	102	0.19	48960	92.40	691	14	0.03	51672	97.52	731	1	0.00	52495	99.07
652	89	0.17	49049	92.57	692	47	0.09	51719	97.61	732	15	0.03	52510	99.10
653	118	0.22	49167	92.79	693	32	0.06	51751	97.67	733	29	0.05	52539	99.16
654	94	0.18	49261	92.97	694	40	0.08	51791	97.74	734	75	0.14	52614	99.30
655	112	0.21	49373	93.18	695	34	0.06	51825	97.81	735	18	0.03	52632	99.33
656	111	0.21	49484	93.39	696	39	0.07	51864	97.88	736	3	0.01	52635	99.34
657	81	0.15	49565	93.54	697	35	0.07	51899	97.95	737	8	0.02	52643	99.35
658	82	0.15	49647	93.70	698	34	0.06	51933	98.01	738	1	0.00	52644	99.35
659	75	0.14	49722	93.84	699	14	0.03	51947	98.04	739	1	0.00	52645	99.36
660	93	0.18	49815	94.02	700	27	0.05	51974	98.09	740	2	0.00	52647	99.36
661	102	0.19	49917	94.21	701	61	0.12	52035	98.21	741	13	0.02	52660	99.38
662	92	0.17	50009	94.38	702	15	0.03	52050	98.23	745	19	0.04	52679	99.42
663	89	0.17	50098	94.55	703	21	0.04	52071	98.27	746	2	0.00	52681	99.42
664	63	0.12	50161	94.67	704	18	0.03	52089	98.31	748	14	0.03	52695	99.45
665	83	0.16	50244	94.83	705	24	0.05	52113	98.35	750	5	0.01	52700	99.46

Table A-2. Reading 3 Scale Score Distribution (Continued)

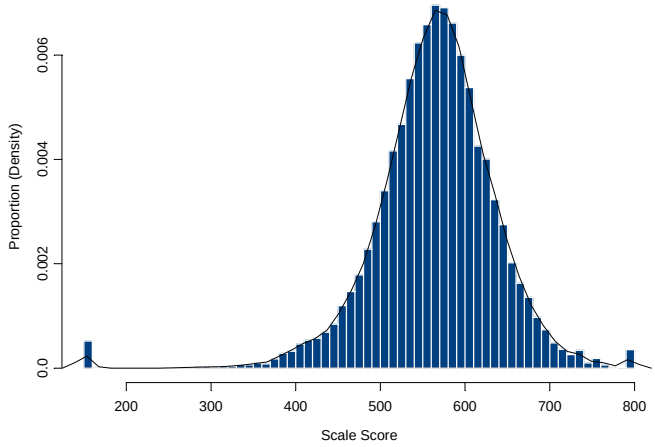
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
751	4	0.01	52704	99.47										
752	2	0.00	52706	99.47										
753	4	0.01	52710	99.48										
754	4	0.01	52714	99.49										
755	6	0.01	52720	99.50										
757	22	0.04	52742	99.54										
758	10	0.02	52752	99.56										
760	40	0.08	52792	99.63										
763	7	0.01	52799	99.65										
764	2	0.00	52801	99.65										
765	3	0.01	52804	99.66										
768	6	0.01	52810	99.67										
770	12	0.02	52822	99.69										
785	8	0.02	52830	99.71										
791	20	0.04	52850	99.74										
795	136	0.26	52986	100.00										

Figure A-2. Reading 3 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 3 Scale Score Distribution (Total)



2005 Reading 3 Scale Score Distribution (Female)



2005 Reading 3 Scale Score Distribution (Male)

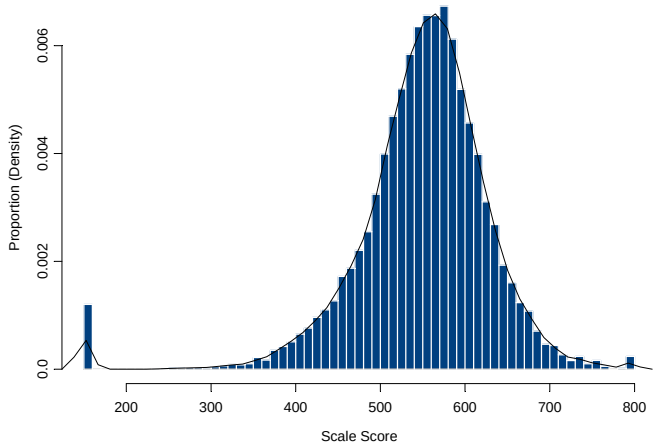


Table A-3. Spanish Reading 3 Scale Score Distribution

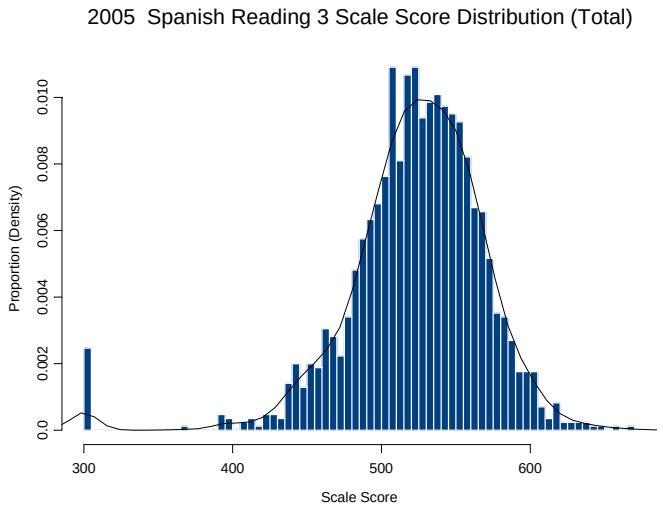
(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

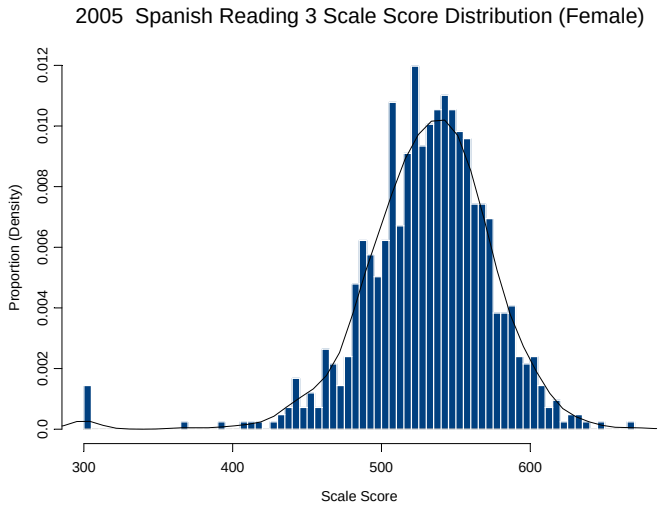
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
300	21	1.23	21	1.23	456	6	0.35	109	6.39	497	12	0.70	386	22.64
369	1	0.06	22	1.29	457	5	0.29	114	6.69	498	15	0.88	401	23.52
392	2	0.12	24	1.41	458	3	0.18	117	6.86	499	9	0.53	410	24.05
395	2	0.12	26	1.52	459	1	0.06	118	6.92	500	9	0.53	419	24.57
396	1	0.06	27	1.58	460	1	0.06	119	6.98	501	15	0.88	434	25.45
397	2	0.12	29	1.70	461	6	0.35	125	7.33	502	11	0.65	445	26.10
407	1	0.06	30	1.76	462	3	0.18	128	7.51	503	9	0.53	454	26.63
408	1	0.06	31	1.82	463	10	0.59	138	8.09	504	16	0.94	470	27.57
413	1	0.06	32	1.88	464	4	0.23	142	8.33	505	14	0.82	484	28.39
415	2	0.12	34	1.99	465	3	0.18	145	8.50	506	13	0.76	497	29.15
420	1	0.06	35	2.05	466	3	0.18	148	8.68	507	22	1.29	519	30.44
422	1	0.06	36	2.11	467	4	0.23	152	8.91	508	21	1.23	540	31.67
423	2	0.12	38	2.23	468	5	0.29	157	9.21	509	15	0.88	555	32.55
425	1	0.06	39	2.29	469	7	0.41	164	9.62	510	22	1.29	577	33.84
427	1	0.06	40	2.35	470	5	0.29	169	9.91	511	15	0.88	592	34.72
428	1	0.06	41	2.40	471	3	0.18	172	10.09	512	13	0.76	605	35.48
429	1	0.06	42	2.46	473	4	0.23	176	10.32	513	13	0.76	618	36.25
430	1	0.06	43	2.52	474	4	0.23	180	10.56	514	17	1.00	635	37.24
431	1	0.06	44	2.58	475	8	0.47	188	11.03	515	11	0.65	646	37.89
432	1	0.06	45	2.64	476	3	0.18	191	11.20	516	22	1.29	668	39.18
433	1	0.06	46	2.70	477	6	0.35	197	11.55	517	18	1.06	686	40.23
436	4	0.23	50	2.93	478	8	0.47	205	12.02	518	19	1.11	705	41.35
437	2	0.12	52	3.05	479	6	0.35	211	12.38	519	12	0.70	717	42.05
438	1	0.06	53	3.11	480	6	0.35	217	12.73	520	20	1.17	737	43.23
439	4	0.23	57	3.34	481	5	0.29	222	13.02	521	18	1.06	755	44.28
440	1	0.06	58	3.40	482	8	0.47	230	13.49	522	22	1.29	777	45.57
441	4	0.23	62	3.64	483	11	0.65	241	14.13	523	18	1.06	795	46.63
442	7	0.41	69	4.05	484	9	0.53	250	14.66	524	20	1.17	815	47.80
443	1	0.06	70	4.11	485	8	0.47	258	15.13	525	15	0.88	830	48.68
444	2	0.12	72	4.22	486	8	0.47	266	15.60	526	12	0.70	842	49.38
445	3	0.18	75	4.40	487	4	0.23	270	15.84	527	14	0.82	856	50.21
446	5	0.29	80	4.69	488	13	0.76	283	16.60	528	12	0.70	868	50.91
447	3	0.18	83	4.87	489	10	0.59	293	17.18	529	20	1.17	888	52.08
448	2	0.12	85	4.99	490	14	0.82	307	18.01	530	22	1.29	910	53.37
450	1	0.06	86	5.04	491	12	0.70	319	18.71	531	13	0.76	923	54.13
451	4	0.23	90	5.28	492	7	0.41	326	19.12	532	23	1.35	946	55.48
452	5	0.29	95	5.57	493	10	0.59	336	19.71	533	21	1.23	967	56.72
453	2	0.12	97	5.69	494	11	0.65	347	20.35	534	15	0.88	982	57.60
454	3	0.18	100	5.87	495	14	0.82	361	21.17	535	12	0.70	994	58.30
455	3	0.18	103	6.04	496	13	0.76	374	21.94	536	15	0.88	1009	59.18

Table A-3. Spanish Reading 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
537	15	0.88	1024	60.06	577	5	0.29	1565	91.79	631	1	0.06	1698	99.59
538	28	1.64	1052	61.70	578	3	0.18	1568	91.96	634	1	0.06	1699	99.65
539	16	0.94	1068	62.64	579	6	0.35	1574	92.32	636	1	0.06	1700	99.71
540	12	0.70	1080	63.34	580	6	0.35	1580	92.67	638	1	0.06	1701	99.77
541	18	1.06	1098	64.40	581	4	0.23	1584	92.90	645	1	0.06	1702	99.82
542	16	0.94	1114	65.34	582	7	0.41	1591	93.31	648	1	0.06	1703	99.88
543	13	0.76	1127	66.10	583	7	0.41	1598	93.72	656	1	0.06	1704	99.94
544	16	0.94	1143	67.04	584	6	0.35	1604	94.08	670	1	0.06	1705	100.00
545	20	1.17	1163	68.21	585	5	0.29	1609	94.37					
546	18	1.06	1181	69.27	586	7	0.41	1616	94.78					
547	9	0.53	1190	69.79	587	6	0.35	1622	95.13					
548	19	1.11	1209	70.91	588	3	0.18	1625	95.31					
549	15	0.88	1224	71.79	589	2	0.12	1627	95.43					
550	20	1.17	1244	72.96	590	5	0.29	1632	95.72					
551	14	0.82	1258	73.78	591	2	0.12	1634	95.84					
552	17	1.00	1275	74.78	592	2	0.12	1636	95.95					
553	12	0.70	1287	75.48	593	1	0.06	1637	96.01					
554	18	1.06	1305	76.54	594	7	0.41	1644	96.42					
555	18	1.06	1323	77.60	595	3	0.18	1647	96.60					
556	19	1.11	1342	78.71	596	1	0.06	1648	96.66					
557	13	0.76	1355	79.47	597	6	0.35	1654	97.01					
558	12	0.70	1367	80.18	598	5	0.29	1659	97.30					
559	14	0.82	1381	81.00	599	1	0.06	1660	97.36					
560	12	0.70	1393	81.70	600	2	0.12	1662	97.48					
561	9	0.53	1402	82.23	601	3	0.18	1665	97.65					
562	16	0.94	1418	83.17	602	3	0.18	1668	97.83					
563	10	0.59	1428	83.75	603	1	0.06	1669	97.89					
564	9	0.53	1437	84.28	604	2	0.12	1671	98.01					
565	13	0.76	1450	85.04	605	6	0.35	1677	98.36					
566	11	0.65	1461	85.69	606	3	0.18	1680	98.53					
567	9	0.53	1470	86.22	607	1	0.06	1681	98.59					
568	11	0.65	1481	86.86	608	2	0.12	1683	98.71					
569	17	1.00	1498	87.86	611	2	0.12	1685	98.83					
570	8	0.47	1506	88.33	613	1	0.06	1686	98.89					
571	10	0.59	1516	88.91	616	1	0.06	1687	98.94					
572	9	0.53	1525	89.44	617	3	0.18	1690	99.12					
573	9	0.53	1534	89.97	618	3	0.18	1693	99.30					
574	11	0.65	1545	90.62	623	2	0.12	1695	99.41					
575	5	0.29	1550	90.91	628	1	0.06	1696	99.47					
576	10	0.59	1560	91.50	629	1	0.06	1697	99.53					

Figure A-3. Spanish Reading 3 Scale Score Distributions for the Total Population, Female, and Male Students





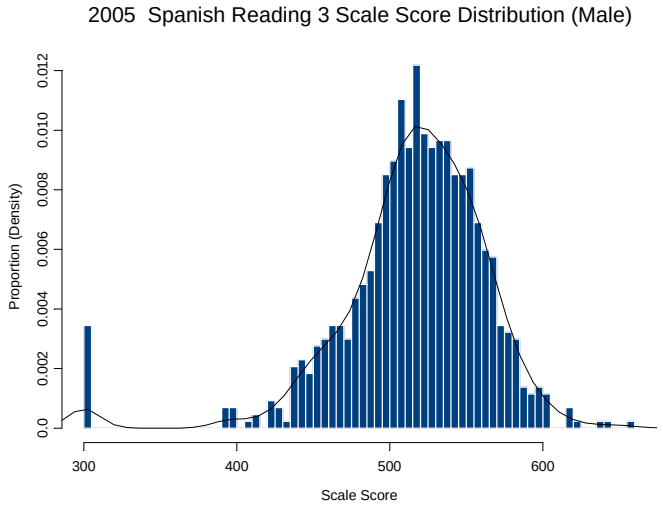


Table A-4. Writing 3 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
150	52	0.10	52	0.10	259	1	0.00	110	0.21	302	2	0.00	203	0.38
183	2	0.00	54	0.10	260	3	0.01	113	0.21	303	3	0.01	206	0.39
185	2	0.00	56	0.11	261	1	0.00	114	0.21	304	3	0.01	209	0.39
188	1	0.00	57	0.11	262	2	0.00	116	0.22	305	2	0.00	211	0.40
189	1	0.00	58	0.11	263	1	0.00	117	0.22	306	5	0.01	216	0.41
192	2	0.00	60	0.11	265	1	0.00	118	0.22	307	5	0.01	221	0.42
193	1	0.00	61	0.11	267	1	0.00	119	0.22	308	3	0.01	224	0.42
194	1	0.00	62	0.12	268	1	0.00	120	0.23	309	3	0.01	227	0.43
198	1	0.00	63	0.12	269	2	0.00	122	0.23	310	6	0.01	233	0.44
200	1	0.00	64	0.12	270	3	0.01	125	0.24	311	5	0.01	238	0.45
204	1	0.00	65	0.12	271	3	0.01	128	0.24	312	7	0.01	245	0.46
209	1	0.00	66	0.12	272	1	0.00	129	0.24	313	3	0.01	248	0.47
211	1	0.00	67	0.13	273	1	0.00	130	0.24	314	7	0.01	255	0.48
212	1	0.00	68	0.13	274	2	0.00	132	0.25	315	5	0.01	260	0.49
215	1	0.00	69	0.13	275	1	0.00	133	0.25	316	6	0.01	266	0.50
216	1	0.00	70	0.13	276	1	0.00	134	0.25	317	5	0.01	271	0.51
218	1	0.00	71	0.13	277	1	0.00	135	0.25	318	4	0.01	275	0.52
219	1	0.00	72	0.14	278	2	0.00	137	0.26	319	4	0.01	279	0.53
220	1	0.00	73	0.14	279	2	0.00	139	0.26	320	7	0.01	286	0.54
221	2	0.00	75	0.14	280	1	0.00	140	0.26	321	3	0.01	289	0.54
222	1	0.00	76	0.14	281	2	0.00	142	0.27	322	8	0.02	297	0.56
226	2	0.00	78	0.15	282	2	0.00	144	0.27	323	5	0.01	302	0.57
227	1	0.00	79	0.15	283	2	0.00	146	0.27	324	8	0.02	310	0.58
228	1	0.00	80	0.15	284	3	0.01	149	0.28	325	7	0.01	317	0.60
229	1	0.00	81	0.15	285	3	0.01	152	0.29	326	6	0.01	323	0.61
231	2	0.00	83	0.16	286	2	0.00	154	0.29	327	4	0.01	327	0.62
233	2	0.00	85	0.16	287	3	0.01	157	0.30	328	6	0.01	333	0.63
235	4	0.01	89	0.17	289	6	0.01	163	0.31	329	4	0.01	337	0.63
238	2	0.00	91	0.17	290	1	0.00	164	0.31	330	8	0.02	345	0.65
240	1	0.00	92	0.17	291	4	0.01	168	0.32	331	11	0.02	356	0.67
241	3	0.01	95	0.18	292	2	0.00	170	0.32	332	8	0.02	364	0.69
242	4	0.01	99	0.19	293	7	0.01	177	0.33	333	9	0.02	373	0.70
243	2	0.00	101	0.19	294	3	0.01	180	0.34	334	11	0.02	384	0.72
247	1	0.00	102	0.19	295	1	0.00	181	0.34	335	8	0.02	392	0.74
249	1	0.00	103	0.19	296	1	0.00	182	0.34	336	10	0.02	402	0.76
251	1	0.00	104	0.20	297	3	0.01	185	0.35	337	8	0.02	410	0.77
254	2	0.00	106	0.20	298	4	0.01	189	0.36	338	11	0.02	421	0.79
255	1	0.00	107	0.20	299	2	0.00	191	0.36	339	10	0.02	431	0.81
257	1	0.00	108	0.20	300	6	0.01	197	0.37	340	10	0.02	441	0.83
258	1	0.00	109	0.21	301	4	0.01	201	0.38	341	7	0.01	448	0.84

Table A-4. Writing 3 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
342	14	0.03	462	0.87	382	67	0.13	1805	3.40	422	242	0.46	7591	14.29
343	12	0.02	474	0.89	383	78	0.15	1883	3.54	423	263	0.49	7854	14.78
344	18	0.03	492	0.93	384	77	0.14	1960	3.69	424	258	0.49	8112	15.27
345	11	0.02	503	0.95	385	70	0.13	2030	3.82	425	249	0.47	8361	15.73
346	11	0.02	514	0.97	386	96	0.18	2126	4.00	426	276	0.52	8637	16.25
347	18	0.03	532	1.00	387	73	0.14	2199	4.14	427	275	0.52	8912	16.77
348	13	0.02	545	1.03	388	77	0.14	2276	4.28	428	262	0.49	9174	17.26
349	15	0.03	560	1.05	389	81	0.15	2357	4.44	429	281	0.53	9455	17.79
350	22	0.04	582	1.10	390	96	0.18	2453	4.62	430	309	0.58	9764	18.38
351	26	0.05	608	1.14	391	96	0.18	2549	4.80	431	308	0.58	10072	18.95
352	18	0.03	626	1.18	392	97	0.18	2646	4.98	432	306	0.58	10378	19.53
353	29	0.05	655	1.23	393	93	0.18	2739	5.15	433	325	0.61	10703	20.14
354	14	0.03	669	1.26	394	107	0.20	2846	5.36	434	283	0.53	10986	20.67
355	15	0.03	684	1.29	395	108	0.20	2954	5.56	435	288	0.54	11274	21.22
356	28	0.05	712	1.34	396	126	0.24	3080	5.80	436	353	0.66	11627	21.88
357	19	0.04	731	1.38	397	123	0.23	3203	6.03	437	346	0.65	11973	22.53
358	19	0.04	750	1.41	398	119	0.22	3322	6.25	438	345	0.65	12318	23.18
359	23	0.04	773	1.45	399	122	0.23	3444	6.48	439	310	0.58	12628	23.76
360	21	0.04	794	1.49	400	136	0.26	3580	6.74	440	329	0.62	12957	24.38
361	34	0.06	828	1.56	401	125	0.24	3705	6.97	441	370	0.70	13327	25.08
362	28	0.05	856	1.61	402	124	0.23	3829	7.21	442	373	0.70	13700	25.78
363	26	0.05	882	1.66	403	122	0.23	3951	7.44	443	360	0.68	14060	26.46
364	33	0.06	915	1.72	404	145	0.27	4096	7.71	444	420	0.79	14480	27.25
365	25	0.05	940	1.77	405	161	0.30	4257	8.01	445	373	0.70	14853	27.95
366	42	0.08	982	1.85	406	138	0.26	4395	8.27	446	415	0.78	15268	28.73
367	33	0.06	1015	1.91	407	160	0.30	4555	8.57	447	375	0.71	15643	29.44
368	37	0.07	1052	1.98	408	149	0.28	4704	8.85	448	367	0.69	16010	30.13
369	44	0.08	1096	2.06	409	183	0.34	4887	9.20	449	380	0.72	16390	30.84
370	41	0.08	1137	2.14	410	167	0.31	5054	9.51	450	385	0.72	16775	31.57
371	42	0.08	1179	2.22	411	168	0.32	5222	9.83	451	449	0.84	17224	32.41
372	42	0.08	1221	2.30	412	188	0.35	5410	10.18	452	405	0.76	17629	33.18
373	49	0.09	1270	2.39	413	184	0.35	5594	10.53	453	434	0.82	18063	33.99
374	45	0.08	1315	2.47	414	188	0.35	5782	10.88	454	430	0.81	18493	34.80
375	51	0.10	1366	2.57	415	203	0.38	5985	11.26	455	421	0.79	18914	35.59
376	63	0.12	1429	2.69	416	214	0.40	6199	11.67	456	423	0.80	19337	36.39
377	70	0.13	1499	2.82	417	185	0.35	6384	12.01	457	429	0.81	19766	37.20
378	45	0.08	1544	2.91	418	237	0.45	6621	12.46	458	411	0.77	20177	37.97
379	49	0.09	1593	3.00	419	232	0.44	6853	12.90	459	479	0.90	20656	38.87
380	69	0.13	1662	3.13	420	261	0.49	7114	13.39	460	434	0.82	21090	39.69
381	76	0.14	1738	3.27	421	235	0.44	7349	13.83	461	464	0.87	21554	40.56

Table A-4. Writing 3 Scale Score Distribution (Continued)

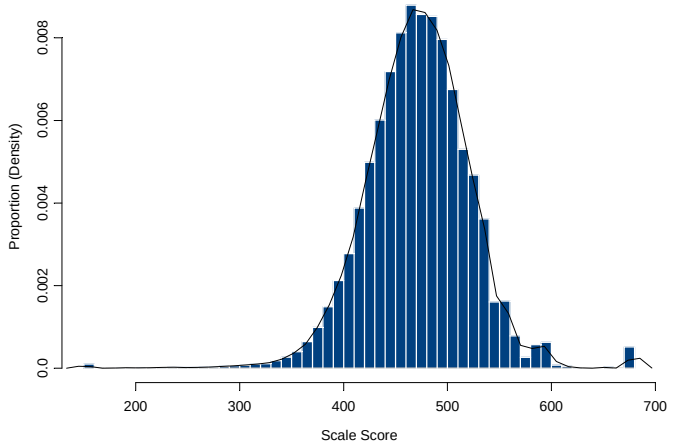
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
462	485	0.91	22039	41.48	502	350	0.66	39846	74.99	542	129	0.24	50195	94.46
463	428	0.81	22467	42.28	503	391	0.74	40237	75.72	543	117	0.22	50312	94.68
464	452	0.85	22919	43.13	504	349	0.66	40586	76.38	544	53	0.10	50365	94.78
465	433	0.81	23352	43.95	505	349	0.66	40935	77.04	545	71	0.13	50436	94.92
466	464	0.87	23816	44.82	506	341	0.64	41276	77.68	546	58	0.11	50494	95.03
467	487	0.92	24303	45.74	507	289	0.54	41565	78.22	547	88	0.17	50582	95.19
468	486	0.91	24789	46.65	508	351	0.66	41916	78.88	548	57	0.11	50639	95.30
469	489	0.92	25278	47.57	509	339	0.64	42255	79.52	549	55	0.10	50694	95.40
470	483	0.91	25761	48.48	510	399	0.75	42654	80.27	550	35	0.07	50729	95.47
471	484	0.91	26245	49.39	511	352	0.66	43006	80.93	551	63	0.12	50792	95.59
472	464	0.87	26709	50.26	512	455	0.86	43461	81.79	552	38	0.07	50830	95.66
473	453	0.85	27162	51.12	513	300	0.56	43761	82.36	553	227	0.43	51057	96.09
474	441	0.83	27603	51.95	514	242	0.46	44003	82.81	554	63	0.12	51120	96.20
475	448	0.84	28051	52.79	515	394	0.74	44397	83.55	555	25	0.05	51145	96.25
476	451	0.85	28502	53.64	516	211	0.40	44608	83.95	556	44	0.08	51189	96.33
477	457	0.86	28959	54.50	517	160	0.30	44768	84.25	557	58	0.11	51247	96.44
478	461	0.87	29420	55.37	518	207	0.39	44975	84.64	558	168	0.32	51415	96.76
479	443	0.83	29863	56.20	519	239	0.45	45214	85.09	559	102	0.19	51517	96.95
480	449	0.84	30312	57.04	520	257	0.48	45471	85.57	560	76	0.14	51593	97.09
481	491	0.92	30803	57.97	521	241	0.45	45712	86.03	561	80	0.15	51673	97.24
482	424	0.80	31227	58.77	522	286	0.54	45998	86.56	562	32	0.06	51705	97.31
483	486	0.91	31713	59.68	523	710	1.34	46708	87.90	563	50	0.09	51755	97.40
484	485	0.91	32198	60.59	524	275	0.52	46983	88.42	564	47	0.09	51802	97.49
485	454	0.85	32652	61.45	525	181	0.34	47164	88.76	565	33	0.06	51835	97.55
486	465	0.88	33117	62.32	526	126	0.24	47290	89.00	566	114	0.21	51949	97.76
487	440	0.83	33557	63.15	527	267	0.50	47557	89.50	567	21	0.04	51970	97.80
488	411	0.77	33968	63.93	528	225	0.42	47782	89.92	568	13	0.02	51983	97.83
489	427	0.80	34395	64.73	529	94	0.18	47876	90.10	569	13	0.02	51996	97.85
490	443	0.83	34838	65.56	530	80	0.15	47956	90.25	570	12	0.02	52008	97.88
491	429	0.81	35267	66.37	531	138	0.26	48094	90.51	571	6	0.01	52014	97.89
492	407	0.77	35674	67.14	532	126	0.24	48220	90.75	572	31	0.06	52045	97.94
493	426	0.80	36100	67.94	533	78	0.15	48298	90.89	573	14	0.03	52059	97.97
494	428	0.81	36528	68.74	534	185	0.35	48483	91.24	574	23	0.04	52082	98.01
495	390	0.73	36918	69.48	535	119	0.22	48602	91.47	575	28	0.05	52110	98.07
496	452	0.85	37370	70.33	536	91	0.17	48693	91.64	576	16	0.03	52126	98.10
497	433	0.81	37803	71.14	537	871	1.64	49564	93.28	577	2	0.00	52128	98.10
498	404	0.76	38207	71.90	538	116	0.22	49680	93.49	578	10	0.02	52138	98.12
499	420	0.79	38627	72.69	539	112	0.21	49792	93.70	579	6	0.01	52144	98.13
500	441	0.83	39068	73.52	540	85	0.16	49877	93.86	580	4	0.01	52148	98.14
501	428	0.81	39496	74.33	541	189	0.36	50066	94.22	581	10	0.02	52158	98.16

Table A-4. Writing 3 Scale Score Distribution (Continued)

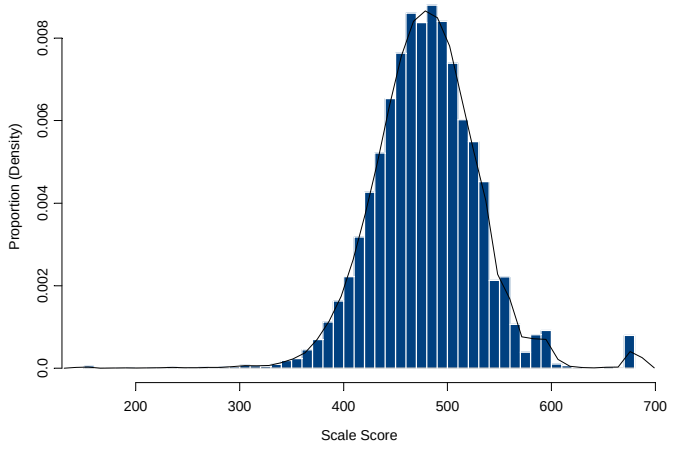
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
582	142	0.27	52300	98.42										
583	9	0.02	52309	98.44										
584	7	0.01	52316	98.45										
585	48	0.09	52364	98.55										
586	32	0.06	52396	98.61										
587	18	0.03	52414	98.64										
588	4	0.01	52418	98.65										
589	30	0.06	52448	98.70										
590	3	0.01	52451	98.71										
591	44	0.08	52495	98.79										
592	1	0.00	52496	98.79										
593	7	0.01	52503	98.81										
594	107	0.20	52610	99.01										
595	20	0.04	52630	99.05										
596	133	0.25	52763	99.30										
597	1	0.00	52764	99.30										
600	20	0.04	52784	99.34										
607	24	0.05	52808	99.38										
608	14	0.03	52822	99.41										
611	2	0.00	52824	99.41										
612	21	0.04	52845	99.45										
628	5	0.01	52850	99.46										
653	13	0.02	52863	99.48										
680	274	0.52	53137	100.00										

Figure A-4. Writing 3 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Writing 3 Scale Score Distribution (Total)



2005 Writing 3 Scale Score Distribution (Female)



2005 Writing 3 Scale Score Distribution (Male)

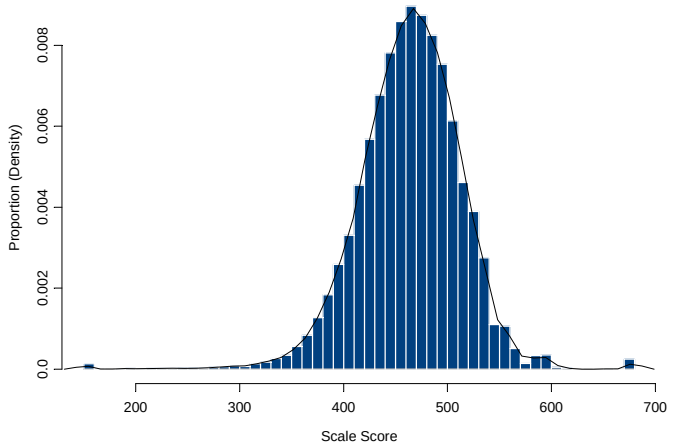


Table A-5. Spanish Writing 3 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
250	4	0.24	4	0.24	406	2	0.12	67	3.98	447	9	0.53	280	16.62
256	1	0.06	5	0.30	407	2	0.12	69	4.09	448	7	0.42	287	17.03
259	1	0.06	6	0.36	408	3	0.18	72	4.27	449	4	0.24	291	17.27
285	1	0.06	7	0.42	409	3	0.18	75	4.45	450	4	0.24	295	17.51
306	1	0.06	8	0.47	410	3	0.18	78	4.63	451	8	0.47	303	17.98
313	1	0.06	9	0.53	411	4	0.24	82	4.87	452	6	0.36	309	18.34
329	1	0.06	10	0.59	412	5	0.30	87	5.16	453	9	0.53	318	18.87
341	1	0.06	11	0.65	413	1	0.06	88	5.22	454	6	0.36	324	19.23
343	1	0.06	12	0.71	414	1	0.06	89	5.28	455	9	0.53	333	19.76
345	1	0.06	13	0.77	415	4	0.24	93	5.52	456	8	0.47	341	20.24
351	1	0.06	14	0.83	416	4	0.24	97	5.76	457	9	0.53	350	20.77
356	1	0.06	15	0.89	417	6	0.36	103	6.11	458	7	0.42	357	21.19
357	1	0.06	16	0.95	418	3	0.18	106	6.29	459	12	0.71	369	21.90
363	1	0.06	17	1.01	419	3	0.18	109	6.47	460	12	0.71	381	22.61
364	1	0.06	18	1.07	420	2	0.12	111	6.59	461	13	0.77	394	23.38
369	2	0.12	20	1.19	421	4	0.24	115	6.82	462	5	0.30	399	23.68
371	1	0.06	21	1.25	422	5	0.30	120	7.12	463	15	0.89	414	24.57
373	2	0.12	23	1.36	423	3	0.18	123	7.30	464	5	0.30	419	24.87
375	1	0.06	24	1.42	424	7	0.42	130	7.72	465	9	0.53	428	25.40
376	1	0.06	25	1.48	425	6	0.36	136	8.07	466	9	0.53	437	25.93
382	1	0.06	26	1.54	426	5	0.30	141	8.37	467	6	0.36	443	26.29
383	1	0.06	27	1.60	428	8	0.47	149	8.84	468	8	0.47	451	26.77
384	2	0.12	29	1.72	429	4	0.24	153	9.08	469	11	0.65	462	27.42
385	1	0.06	30	1.78	430	6	0.36	159	9.44	470	11	0.65	473	28.07
387	2	0.12	32	1.90	431	9	0.53	168	9.97	471	7	0.42	480	28.49
388	3	0.18	35	2.08	432	6	0.36	174	10.33	472	4	0.24	484	28.72
389	3	0.18	38	2.26	433	5	0.30	179	10.62	473	15	0.89	499	29.61
391	1	0.06	39	2.31	434	6	0.36	185	10.98	474	11	0.65	510	30.27
392	2	0.12	41	2.43	435	8	0.47	193	11.45	475	11	0.65	521	30.92
393	3	0.18	44	2.61	436	10	0.59	203	12.05	476	11	0.65	532	31.57
394	1	0.06	45	2.67	437	3	0.18	206	12.23	477	8	0.47	540	32.05
395	2	0.12	47	2.79	438	9	0.53	215	12.76	478	13	0.77	553	32.82
396	2	0.12	49	2.91	439	5	0.30	220	13.06	479	8	0.47	561	33.29
398	1	0.06	50	2.97	440	6	0.36	226	13.41	480	12	0.71	573	34.01
399	3	0.18	53	3.15	441	8	0.47	234	13.89	481	8	0.47	581	34.48
400	3	0.18	56	3.32	442	7	0.42	241	14.30	482	6	0.36	587	34.84
401	2	0.12	58	3.44	443	3	0.18	244	14.48	483	10	0.59	597	35.43
403	2	0.12	60	3.56	444	5	0.30	249	14.78	484	13	0.77	610	36.20
404	2	0.12	62	3.68	445	10	0.59	259	15.37	485	8	0.47	618	36.68
405	3	0.18	65	3.86	446	12	0.71	271	16.08	486	9	0.53	627	37.21

Table A-5. Spanish Writing 3 Scale Score Distribution (Continued)

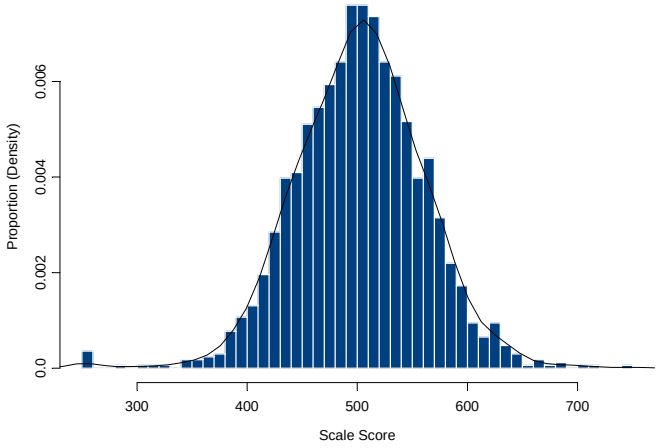
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
487	12	0.71	639	37.92	527	8	0.47	1134	67.30	567	7	0.42	1475	87.54
488	14	0.83	653	38.75	528	15	0.89	1149	68.19	568	8	0.47	1483	88.01
489	12	0.71	665	39.47	529	10	0.59	1159	68.78	569	7	0.42	1490	88.43
490	16	0.95	681	40.42	530	10	0.59	1169	69.38	570	10	0.59	1500	89.02
491	11	0.65	692	41.07	531	13	0.77	1182	70.15	571	3	0.18	1503	89.20
492	12	0.71	704	41.78	532	10	0.59	1192	70.74	572	6	0.36	1509	89.55
493	7	0.42	711	42.20	533	15	0.89	1207	71.63	573	1	0.06	1510	89.61
494	10	0.59	721	42.79	534	10	0.59	1217	72.23	574	8	0.47	1518	90.09
495	14	0.83	735	43.62	535	6	0.36	1223	72.58	575	6	0.36	1524	90.45
496	17	1.01	752	44.63	536	9	0.53	1232	73.12	576	8	0.47	1532	90.92
497	10	0.59	762	45.22	537	11	0.65	1243	73.77	577	6	0.36	1538	91.28
498	16	0.95	778	46.17	538	10	0.59	1253	74.36	578	7	0.42	1545	91.69
499	19	1.13	797	47.30	539	9	0.53	1262	74.90	579	4	0.24	1549	91.93
500	12	0.71	809	48.01	540	10	0.59	1272	75.49	580	4	0.24	1553	92.17
501	14	0.83	823	48.84	541	12	0.71	1284	76.20	581	8	0.47	1561	92.64
502	13	0.77	836	49.61	542	12	0.71	1296	76.91	582	5	0.30	1566	92.94
503	12	0.71	848	50.33	543	11	0.65	1307	77.57	583	1	0.06	1567	93.00
504	9	0.53	857	50.86	544	7	0.42	1314	77.98	584	3	0.18	1570	93.18
505	14	0.83	871	51.69	545	6	0.36	1320	78.34	585	1	0.06	1571	93.23
506	18	1.07	889	52.76	546	11	0.65	1331	78.99	586	4	0.24	1575	93.47
507	15	0.89	904	53.65	547	9	0.53	1340	79.53	587	6	0.36	1581	93.83
508	8	0.47	912	54.12	548	5	0.30	1345	79.82	588	1	0.06	1582	93.89
509	14	0.83	926	54.96	549	7	0.42	1352	80.24	589	1	0.06	1583	93.95
510	11	0.65	937	55.61	550	7	0.42	1359	80.65	590	7	0.42	1590	94.36
511	8	0.47	945	56.08	551	6	0.36	1365	81.01	591	3	0.18	1593	94.54
512	10	0.59	955	56.68	552	7	0.42	1372	81.42	592	4	0.24	1597	94.78
513	13	0.77	968	57.45	553	7	0.42	1379	81.84	593	3	0.18	1600	94.96
514	14	0.83	982	58.28	554	10	0.59	1389	82.43	595	2	0.12	1602	95.07
515	18	1.07	1000	59.35	555	5	0.30	1394	82.73	596	5	0.30	1607	95.37
516	11	0.65	1011	60.00	556	5	0.30	1399	83.03	597	6	0.36	1613	95.73
517	11	0.65	1022	60.65	557	5	0.30	1404	83.32	598	4	0.24	1617	95.96
518	14	0.83	1036	61.48	558	5	0.30	1409	83.62	599	1	0.06	1618	96.02
519	12	0.71	1048	62.20	559	8	0.47	1417	84.09	600	1	0.06	1619	96.08
520	13	0.77	1061	62.97	560	9	0.53	1426	84.63	601	3	0.18	1622	96.26
521	7	0.42	1068	63.38	561	6	0.36	1432	84.99	602	1	0.06	1623	96.32
522	15	0.89	1083	64.27	562	12	0.71	1444	85.70	603	3	0.18	1626	96.50
523	10	0.59	1093	64.87	563	3	0.18	1447	85.88	604	3	0.18	1629	96.68
524	15	0.89	1108	65.76	564	6	0.36	1453	86.23	605	3	0.18	1632	96.85
525	9	0.53	1117	66.29	565	8	0.47	1461	86.71	607	1	0.06	1633	96.91
526	9	0.53	1126	66.82	566	7	0.42	1468	87.12	608	1	0.06	1634	96.97

Table A-5. Spanish Writing 3 Scale Score Distribution (Continued)

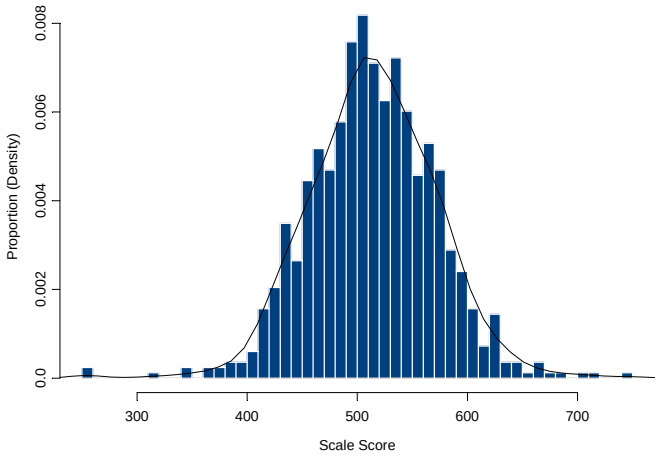
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
610	1	0.06	1635	97.03										
611	1	0.06	1636	97.09										
612	1	0.06	1637	97.15										
613	1	0.06	1638	97.21										
614	3	0.18	1641	97.39										
615	1	0.06	1642	97.45										
616	1	0.06	1643	97.51										
617	1	0.06	1644	97.57										
618	2	0.12	1646	97.69										
621	1	0.06	1647	97.74										
622	2	0.12	1649	97.86										
624	1	0.06	1650	97.92										
625	1	0.06	1651	97.98										
626	7	0.42	1658	98.40										
627	3	0.18	1661	98.58										
628	1	0.06	1662	98.64										
631	1	0.06	1663	98.69										
633	1	0.06	1664	98.75										
634	1	0.06	1665	98.81										
639	2	0.12	1667	98.93										
640	3	0.18	1670	99.11										
642	2	0.12	1672	99.23										
645	3	0.18	1675	99.41										
652	1	0.06	1676	99.47										
663	2	0.12	1678	99.58										
665	1	0.06	1679	99.64										
677	1	0.06	1680	99.70										
689	2	0.12	1682	99.82										
705	1	0.06	1683	99.88										
715	1	0.06	1684	99.94										
750	1	0.06	1685	100.00										

Figure A-5. Spanish Writing 3 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Spanish Writing 3 Scale Score Distribution (Total)



2005 Spanish Writing 3 Scale Score Distribution (Female)



2005 Spanish Writing 3 Scale Score Distribution (Male)

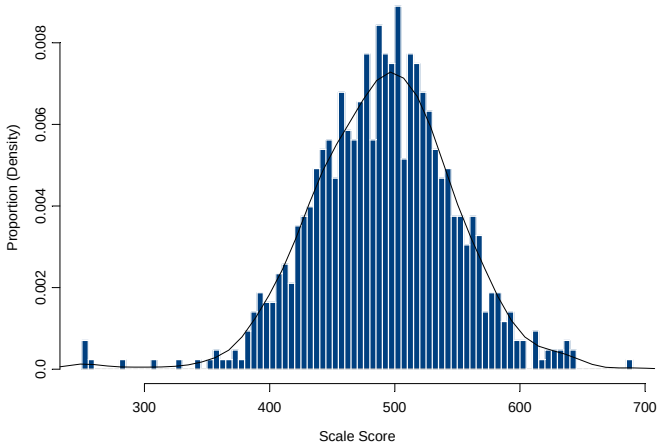


Table A-6. Math 4 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
180	37	0.07	37	0.07	234	2	0.00	131	0.24	274	8	0.01	391	0.71
186	1	0.00	38	0.07	235	5	0.01	136	0.25	275	8	0.01	399	0.73
188	1	0.00	39	0.07	236	2	0.00	138	0.25	276	10	0.02	409	0.75
189	2	0.00	41	0.07	237	3	0.01	141	0.26	277	8	0.01	417	0.76
190	1	0.00	42	0.08	238	6	0.01	147	0.27	278	11	0.02	428	0.78
191	1	0.00	43	0.08	239	1	0.00	148	0.27	279	4	0.01	432	0.79
192	1	0.00	44	0.08	240	3	0.01	151	0.28	280	7	0.01	439	0.80
193	1	0.00	45	0.08	241	5	0.01	156	0.28	281	11	0.02	450	0.82
195	1	0.00	46	0.08	242	1	0.00	157	0.29	282	18	0.03	468	0.85
197	3	0.01	49	0.09	243	5	0.01	162	0.30	283	13	0.02	481	0.88
199	3	0.01	52	0.09	244	8	0.01	170	0.31	284	11	0.02	492	0.90
200	1	0.00	53	0.10	245	3	0.01	173	0.32	285	11	0.02	503	0.92
203	1	0.00	54	0.10	246	5	0.01	178	0.32	286	10	0.02	513	0.94
204	2	0.00	56	0.10	247	3	0.01	181	0.33	287	11	0.02	524	0.96
205	1	0.00	57	0.10	248	5	0.01	186	0.34	288	12	0.02	536	0.98
208	2	0.00	59	0.11	249	5	0.01	191	0.35	289	10	0.02	546	1.00
209	1	0.00	60	0.11	250	7	0.01	198	0.36	290	16	0.03	562	1.03
210	2	0.00	62	0.11	251	5	0.01	203	0.37	291	18	0.03	580	1.06
211	6	0.01	68	0.12	252	1	0.00	204	0.37	292	14	0.03	594	1.08
213	1	0.00	69	0.13	253	6	0.01	210	0.38	293	12	0.02	606	1.11
214	2	0.00	71	0.13	254	9	0.02	219	0.40	294	13	0.02	619	1.13
215	1	0.00	72	0.13	255	6	0.01	225	0.41	295	16	0.03	635	1.16
216	1	0.00	73	0.13	256	9	0.02	234	0.43	296	20	0.04	655	1.20
217	2	0.00	75	0.14	257	9	0.02	243	0.44	297	26	0.05	681	1.24
218	4	0.01	79	0.14	258	8	0.01	251	0.46	298	21	0.04	702	1.28
219	3	0.01	82	0.15	259	3	0.01	254	0.46	299	20	0.04	722	1.32
220	4	0.01	86	0.16	260	7	0.01	261	0.48	300	20	0.04	742	1.35
221	2	0.00	88	0.16	261	4	0.01	265	0.48	301	20	0.04	762	1.39
222	3	0.01	91	0.17	262	6	0.01	271	0.49	302	16	0.03	778	1.42
223	2	0.00	93	0.17	263	8	0.01	279	0.51	303	16	0.03	794	1.45
224	3	0.01	96	0.18	264	9	0.02	288	0.53	304	16	0.03	810	1.48
225	5	0.01	101	0.18	265	16	0.03	304	0.55	305	15	0.03	825	1.51
226	6	0.01	107	0.20	266	10	0.02	314	0.57	306	25	0.05	850	1.55
227	2	0.00	109	0.20	267	9	0.02	323	0.59	307	35	0.06	885	1.61
228	3	0.01	112	0.20	268	14	0.03	337	0.61	308	28	0.05	913	1.67
229	2	0.00	114	0.21	269	9	0.02	346	0.63	309	29	0.05	942	1.72
230	3	0.01	117	0.21	270	12	0.02	358	0.65	310	24	0.04	966	1.76
231	5	0.01	122	0.22	271	7	0.01	365	0.67	311	23	0.04	989	1.80
232	3	0.01	125	0.23	272	8	0.01	373	0.68	312	32	0.06	1021	1.86
233	4	0.01	129	0.24	273	10	0.02	383	0.70	313	22	0.04	1043	1.90

Table A-6. Math 4 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
314	19	0.03	1062	1.94	354	73	0.13	2721	4.96	394	136	0.25	6518	11.89
315	25	0.05	1087	1.98	355	59	0.11	2780	5.07	395	108	0.20	6626	12.09
316	32	0.06	1119	2.04	356	70	0.13	2850	5.20	396	145	0.26	6771	12.35
317	24	0.04	1143	2.09	357	68	0.12	2918	5.32	397	119	0.22	6890	12.57
318	29	0.05	1172	2.14	358	73	0.13	2991	5.46	398	130	0.24	7020	12.81
319	31	0.06	1203	2.20	359	67	0.12	3058	5.58	399	139	0.25	7159	13.06
320	28	0.05	1231	2.25	360	73	0.13	3131	5.71	400	151	0.28	7310	13.34
321	39	0.07	1270	2.32	361	79	0.14	3210	5.86	401	151	0.28	7461	13.61
322	25	0.05	1295	2.36	362	77	0.14	3287	6.00	402	140	0.26	7601	13.87
323	37	0.07	1332	2.43	363	63	0.11	3350	6.11	403	158	0.29	7759	14.16
324	29	0.05	1361	2.48	364	83	0.15	3433	6.26	404	150	0.27	7909	14.43
325	29	0.05	1390	2.54	365	79	0.14	3512	6.41	405	152	0.28	8061	14.71
326	38	0.07	1428	2.61	366	89	0.16	3601	6.57	406	150	0.27	8211	14.98
327	29	0.05	1457	2.66	367	75	0.14	3676	6.71	407	137	0.25	8348	15.23
328	49	0.09	1506	2.75	368	82	0.15	3758	6.86	408	165	0.30	8513	15.53
329	33	0.06	1539	2.81	369	80	0.15	3838	7.00	409	164	0.30	8677	15.83
330	34	0.06	1573	2.87	370	76	0.14	3914	7.14	410	145	0.26	8822	16.10
331	44	0.08	1617	2.95	371	93	0.17	4007	7.31	411	165	0.30	8987	16.40
332	42	0.08	1659	3.03	372	88	0.16	4095	7.47	412	190	0.35	9177	16.74
333	43	0.08	1702	3.11	373	82	0.15	4177	7.62	413	185	0.34	9362	17.08
334	44	0.08	1746	3.19	374	90	0.16	4267	7.79	414	172	0.31	9534	17.40
335	50	0.09	1796	3.28	375	108	0.20	4375	7.98	415	167	0.30	9701	17.70
336	33	0.06	1829	3.34	376	97	0.18	4472	8.16	416	202	0.37	9903	18.07
337	48	0.09	1877	3.42	377	83	0.15	4555	8.31	417	190	0.35	10093	18.42
338	33	0.06	1910	3.49	378	98	0.18	4653	8.49	418	189	0.34	10282	18.76
339	45	0.08	1955	3.57	379	105	0.19	4758	8.68	419	209	0.38	10491	19.14
340	57	0.10	2012	3.67	380	99	0.18	4857	8.86	420	190	0.35	10681	19.49
341	32	0.06	2044	3.73	381	99	0.18	4956	9.04	421	191	0.35	10872	19.84
342	46	0.08	2090	3.81	382	107	0.20	5063	9.24	422	193	0.35	11065	20.19
343	43	0.08	2133	3.89	383	104	0.19	5167	9.43	423	188	0.34	11253	20.53
344	49	0.09	2182	3.98	384	126	0.23	5293	9.66	424	221	0.40	11474	20.94
345	44	0.08	2226	4.06	385	118	0.22	5411	9.87	425	190	0.35	11664	21.28
346	51	0.09	2277	4.15	386	116	0.21	5527	10.08	426	191	0.35	11855	21.63
347	63	0.11	2340	4.27	387	101	0.18	5628	10.27	427	196	0.36	12051	21.99
348	49	0.09	2389	4.36	388	122	0.22	5750	10.49	428	193	0.35	12244	22.34
349	62	0.11	2451	4.47	389	126	0.23	5876	10.72	429	203	0.37	12447	22.71
350	43	0.08	2494	4.55	390	125	0.23	6001	10.95	430	204	0.37	12651	23.08
351	53	0.10	2547	4.65	391	127	0.23	6128	11.18	431	198	0.36	12849	23.44
352	54	0.10	2601	4.75	392	128	0.23	6256	11.42	432	199	0.36	13048	23.81
353	47	0.09	2648	4.83	393	126	0.23	6382	11.64	433	202	0.37	13250	24.18

Table A-6. Math 4 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
434	210	0.38	13460	24.56	474	281	0.51	24078	43.93	514	296	0.54	36311	66.25
435	203	0.37	13663	24.93	475	292	0.53	24370	44.47	515	281	0.51	36592	66.77
436	212	0.39	13875	25.32	476	320	0.58	24690	45.05	516	264	0.48	36856	67.25
437	234	0.43	14109	25.74	477	315	0.57	25005	45.63	517	270	0.49	37126	67.74
438	225	0.41	14334	26.15	478	314	0.57	25319	46.20	518	303	0.55	37429	68.29
439	244	0.45	14578	26.60	479	324	0.59	25643	46.79	519	274	0.50	37703	68.79
440	220	0.40	14798	27.00	480	296	0.54	25939	47.33	520	290	0.53	37993	69.32
441	221	0.40	15019	27.40	481	297	0.54	26236	47.87	521	269	0.49	38262	69.81
442	215	0.39	15234	27.80	482	298	0.54	26534	48.42	522	289	0.53	38551	70.34
443	236	0.43	15470	28.23	483	294	0.54	26828	48.95	523	272	0.50	38823	70.84
444	245	0.45	15715	28.67	484	295	0.54	27123	49.49	524	275	0.50	39098	71.34
445	237	0.43	15952	29.11	485	310	0.57	27433	50.06	525	298	0.54	39396	71.88
446	252	0.46	16204	29.57	486	328	0.60	27761	50.65	526	296	0.54	39692	72.42
447	281	0.51	16485	30.08	487	313	0.57	28074	51.23	527	265	0.48	39957	72.91
448	256	0.47	16741	30.55	488	317	0.58	28391	51.80	528	259	0.47	40216	73.38
449	258	0.47	16999	31.02	489	335	0.61	28726	52.41	529	289	0.53	40505	73.91
450	248	0.45	17247	31.47	490	333	0.61	29059	53.02	530	242	0.44	40747	74.35
451	282	0.51	17529	31.98	491	290	0.53	29349	53.55	531	278	0.51	41025	74.86
452	276	0.50	17805	32.49	492	275	0.50	29624	54.05	532	251	0.46	41276	75.31
453	267	0.49	18072	32.98	493	307	0.56	29931	54.61	533	256	0.47	41532	75.78
454	256	0.47	18328	33.44	494	323	0.59	30254	55.20	534	259	0.47	41791	76.25
455	283	0.52	18611	33.96	495	331	0.60	30585	55.81	535	258	0.47	42049	76.72
456	251	0.46	18862	34.42	496	320	0.58	30905	56.39	536	235	0.43	42284	77.15
457	270	0.49	19132	34.91	497	317	0.58	31222	56.97	537	253	0.46	42537	77.62
458	305	0.56	19437	35.47	498	303	0.55	31525	57.52	538	224	0.41	42761	78.02
459	276	0.50	19713	35.97	499	300	0.55	31825	58.07	539	255	0.47	43016	78.49
460	306	0.56	20019	36.53	500	329	0.60	32154	58.67	540	229	0.42	43245	78.91
461	281	0.51	20300	37.04	501	309	0.56	32463	59.23	541	218	0.40	43463	79.30
462	285	0.52	20585	37.56	502	284	0.52	32747	59.75	542	234	0.43	43697	79.73
463	276	0.50	20861	38.06	503	302	0.55	33049	60.30	543	231	0.42	43928	80.15
464	289	0.53	21150	38.59	504	328	0.60	33377	60.90	544	223	0.41	44151	80.56
465	280	0.51	21430	39.10	505	285	0.52	33662	61.42	545	215	0.39	44366	80.95
466	309	0.56	21739	39.67	506	298	0.54	33960	61.97	546	256	0.47	44622	81.42
467	309	0.56	22048	40.23	507	289	0.53	34249	62.49	547	215	0.39	44837	81.81
468	282	0.51	22330	40.74	508	286	0.52	34535	63.01	548	238	0.43	45075	82.25
469	272	0.50	22602	41.24	509	300	0.55	34835	63.56	549	210	0.38	45285	82.63
470	287	0.52	22889	41.76	510	293	0.53	35128	64.10	550	209	0.38	45494	83.01
471	299	0.55	23188	42.31	511	308	0.56	35436	64.66	551	200	0.36	45694	83.38
472	269	0.49	23457	42.80	512	295	0.54	35731	65.20	552	212	0.39	45906	83.76
473	340	0.62	23797	43.42	513	284	0.52	36015	65.71	553	179	0.33	46085	84.09

Table A-6. Math 4 Scale Score Distribution (Continued)

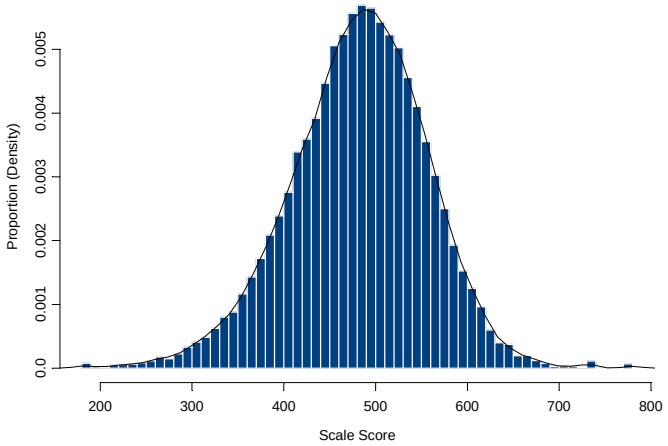
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
554	203	0.37	46288	84.46	594	101	0.18	51910	94.72	634	26	0.05	54011	98.55
555	223	0.41	46511	84.87	595	97	0.18	52007	94.89	635	15	0.03	54026	98.58
556	215	0.39	46726	85.26	596	70	0.13	52077	95.02	636	21	0.04	54047	98.62
557	176	0.32	46902	85.58	597	77	0.14	52154	95.16	637	21	0.04	54068	98.66
558	167	0.30	47069	85.88	598	75	0.14	52229	95.30	638	24	0.04	54092	98.70
559	188	0.34	47257	86.23	599	69	0.13	52298	95.43	639	18	0.03	54110	98.73
560	183	0.33	47440	86.56	600	63	0.11	52361	95.54	640	11	0.02	54121	98.75
561	171	0.31	47611	86.87	601	80	0.15	52441	95.69	641	32	0.06	54153	98.81
562	195	0.36	47806	87.23	602	81	0.15	52522	95.83	642	17	0.03	54170	98.84
563	163	0.30	47969	87.53	603	66	0.12	52588	95.95	643	22	0.04	54192	98.88
564	191	0.35	48160	87.88	604	64	0.12	52652	96.07	644	16	0.03	54208	98.91
565	159	0.29	48319	88.17	605	58	0.11	52710	96.18	645	19	0.03	54227	98.95
566	159	0.29	48478	88.46	606	89	0.16	52799	96.34	646	15	0.03	54242	98.97
567	152	0.28	48630	88.73	607	60	0.11	52859	96.45	647	14	0.03	54256	99.00
568	157	0.29	48787	89.02	608	70	0.13	52929	96.58	648	34	0.06	54290	99.06
569	157	0.29	48944	89.31	609	62	0.11	52991	96.69	649	23	0.04	54313	99.10
570	154	0.28	49098	89.59	610	55	0.10	53046	96.79	650	13	0.02	54326	99.13
571	143	0.26	49241	89.85	611	58	0.11	53104	96.90	651	8	0.01	54334	99.14
572	147	0.27	49388	90.12	612	58	0.11	53162	97.00	652	11	0.02	54345	99.16
573	145	0.26	49533	90.38	613	59	0.11	53221	97.11	653	16	0.03	54361	99.19
574	152	0.28	49685	90.66	614	61	0.11	53282	97.22	654	12	0.02	54373	99.21
575	145	0.26	49830	90.92	615	54	0.10	53336	97.32	655	7	0.01	54380	99.22
576	124	0.23	49954	91.15	616	48	0.09	53384	97.41	656	8	0.01	54388	99.24
577	135	0.25	50089	91.39	617	50	0.09	53434	97.50	657	10	0.02	54398	99.26
578	110	0.20	50199	91.60	618	46	0.08	53480	97.58	658	18	0.03	54416	99.29
579	154	0.28	50353	91.88	619	34	0.06	53514	97.64	659	10	0.02	54426	99.31
580	116	0.21	50469	92.09	620	59	0.11	53573	97.75	660	6	0.01	54432	99.32
581	112	0.20	50581	92.29	621	39	0.07	53612	97.82	661	12	0.02	54444	99.34
582	112	0.20	50693	92.50	622	36	0.07	53648	97.89	662	8	0.01	54452	99.36
583	128	0.23	50821	92.73	623	37	0.07	53685	97.96	663	6	0.01	54458	99.37
584	102	0.19	50923	92.92	624	39	0.07	53724	98.03	664	9	0.02	54467	99.38
585	106	0.19	51029	93.11	625	43	0.08	53767	98.11	665	3	0.01	54470	99.39
586	95	0.17	51124	93.28	626	33	0.06	53800	98.17	666	9	0.02	54479	99.41
587	103	0.19	51227	93.47	627	25	0.05	53825	98.21	667	11	0.02	54490	99.43
588	106	0.19	51333	93.66	628	31	0.06	53856	98.27	668	13	0.02	54503	99.45
589	97	0.18	51430	93.84	629	27	0.05	53883	98.32	669	6	0.01	54509	99.46
590	96	0.18	51526	94.02	630	19	0.03	53902	98.35	670	32	0.06	54541	99.52
591	99	0.18	51625	94.20	631	31	0.06	53933	98.41	671	6	0.01	54547	99.53
592	97	0.18	51722	94.37	632	31	0.06	53964	98.47	672	14	0.03	54561	99.55
593	87	0.16	51809	94.53	633	21	0.04	53985	98.50	673	8	0.01	54569	99.57

Table A-6. Math 4 Scale Score Distribution (Continued)

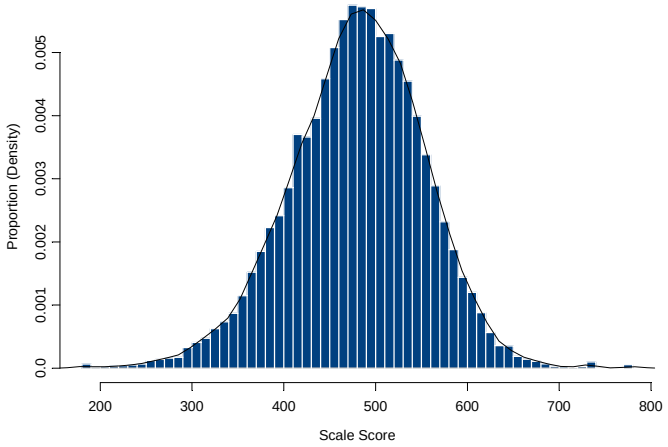
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
674	2	0.00	54571	99.57										
675	2	0.00	54573	99.58										
676	2	0.00	54575	99.58										
677	10	0.02	54585	99.60										
678	12	0.02	54597	99.62										
679	2	0.00	54599	99.62										
680	7	0.01	54606	99.64										
681	3	0.01	54609	99.64										
682	2	0.00	54611	99.65										
683	1	0.00	54612	99.65										
684	4	0.01	54616	99.66										
685	11	0.02	54627	99.68										
686	9	0.02	54636	99.69										
687	8	0.01	54644	99.71										
688	1	0.00	54645	99.71										
689	1	0.00	54646	99.71										
690	1	0.00	54647	99.71										
692	5	0.01	54652	99.72										
693	2	0.00	54654	99.72										
694	3	0.01	54657	99.73										
695	3	0.01	54660	99.74										
698	2	0.00	54662	99.74										
700	2	0.00	54664	99.74										
701	3	0.01	54667	99.75										
704	2	0.00	54669	99.75										
705	2	0.00	54671	99.76										
707	2	0.00	54673	99.76										
708	1	0.00	54674	99.76										
709	9	0.02	54683	99.78										
718	11	0.02	54694	99.80										
720	5	0.01	54699	99.81										
729	7	0.01	54706	99.82										
732	38	0.07	54744	99.89										
734	12	0.02	54756	99.91										
736	4	0.01	54760	99.92										
739	8	0.01	54768	99.93										
780	37	0.07	54805	100.00										

Figure A-6. Math 4 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Mathematics 4 Scale Score Distribution (Total)



2005 Mathematics 4 Scale Score Distribution (Female)



2005 Mathematics 4 Scale Score Distribution (Male)

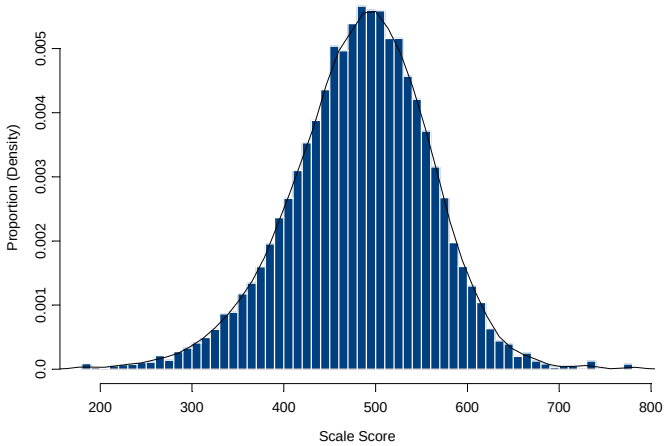


Table A-7. Reading 4 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
180	153	0.28	153	0.28	350	1	0.00	215	0.40	391	8	0.01	453	0.83
241	1	0.00	154	0.28	351	1	0.00	216	0.40	392	5	0.01	458	0.84
243	1	0.00	155	0.29	352	2	0.00	218	0.40	393	7	0.01	465	0.86
246	1	0.00	156	0.29	353	3	0.01	221	0.41	394	11	0.02	476	0.88
247	1	0.00	157	0.29	355	2	0.00	223	0.41	395	7	0.01	483	0.89
256	1	0.00	158	0.29	356	5	0.01	228	0.42	396	14	0.03	497	0.91
265	1	0.00	159	0.29	357	3	0.01	231	0.43	397	7	0.01	504	0.93
283	1	0.00	160	0.29	358	5	0.01	236	0.43	398	7	0.01	511	0.94
284	1	0.00	161	0.30	359	4	0.01	240	0.44	399	13	0.02	524	0.96
296	1	0.00	162	0.30	360	3	0.01	243	0.45	400	14	0.03	538	0.99
297	1	0.00	163	0.30	361	2	0.00	245	0.45	401	7	0.01	545	1.00
299	1	0.00	164	0.30	362	4	0.01	249	0.46	402	18	0.03	563	1.04
304	2	0.00	166	0.31	363	6	0.01	255	0.47	403	11	0.02	574	1.06
306	1	0.00	167	0.31	364	3	0.01	258	0.47	404	16	0.03	590	1.09
307	1	0.00	168	0.31	365	1	0.00	259	0.48	405	18	0.03	608	1.12
311	1	0.00	169	0.31	366	3	0.01	262	0.48	406	8	0.01	616	1.13
315	3	0.01	172	0.32	367	4	0.01	266	0.49	407	14	0.03	630	1.16
319	5	0.01	177	0.33	368	6	0.01	272	0.50	408	14	0.03	644	1.19
322	4	0.01	181	0.33	369	7	0.01	279	0.51	409	17	0.03	661	1.22
324	1	0.00	182	0.34	370	6	0.01	285	0.52	410	11	0.02	672	1.24
327	2	0.00	184	0.34	371	5	0.01	290	0.53	411	23	0.04	695	1.28
328	2	0.00	186	0.34	372	10	0.02	300	0.55	412	14	0.03	709	1.31
329	1	0.00	187	0.34	373	11	0.02	311	0.57	413	22	0.04	731	1.35
330	1	0.00	188	0.35	374	6	0.01	317	0.58	414	15	0.03	746	1.37
331	1	0.00	189	0.35	375	8	0.01	325	0.60	415	20	0.04	766	1.41
332	3	0.01	192	0.35	376	2	0.00	327	0.60	416	25	0.05	791	1.46
333	3	0.01	195	0.36	377	8	0.01	335	0.62	417	26	0.05	817	1.50
336	1	0.00	196	0.36	378	6	0.01	341	0.63	418	14	0.03	831	1.53
337	1	0.00	197	0.36	379	9	0.02	350	0.64	419	26	0.05	857	1.58
338	1	0.00	198	0.36	380	7	0.01	357	0.66	420	21	0.04	878	1.62
339	3	0.01	201	0.37	381	4	0.01	361	0.66	421	17	0.03	895	1.65
340	2	0.00	203	0.37	382	10	0.02	371	0.68	422	38	0.07	933	1.72
341	2	0.00	205	0.38	383	7	0.01	378	0.70	423	22	0.04	955	1.76
342	1	0.00	206	0.38	384	10	0.02	388	0.71	424	24	0.04	979	1.80
343	2	0.00	208	0.38	385	8	0.01	396	0.73	425	24	0.04	1003	1.85
344	1	0.00	209	0.38	386	15	0.03	411	0.76	426	23	0.04	1026	1.89
345	1	0.00	210	0.39	387	11	0.02	422	0.78	427	22	0.04	1048	1.93
347	1	0.00	211	0.39	388	8	0.01	430	0.79	428	24	0.04	1072	1.97
348	2	0.00	213	0.39	389	11	0.02	441	0.81	429	25	0.05	1097	2.02
349	1	0.00	214	0.39	390	4	0.01	445	0.82	430	17	0.03	1114	2.05

Table A-7. Reading 4 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
431	14	0.03	1128	2.08	471	63	0.12	2781	5.12	511	115	0.21	6433	11.84
432	28	0.05	1156	2.13	472	69	0.13	2850	5.25	512	124	0.23	6557	12.07
433	27	0.05	1183	2.18	473	61	0.11	2911	5.36	513	147	0.27	6704	12.34
434	26	0.05	1209	2.23	474	48	0.09	2959	5.45	514	108	0.20	6812	12.54
435	23	0.04	1232	2.27	475	72	0.13	3031	5.58	515	134	0.25	6946	12.79
436	22	0.04	1254	2.31	476	81	0.15	3112	5.73	516	128	0.24	7074	13.02
437	29	0.05	1283	2.36	477	61	0.11	3173	5.84	517	138	0.25	7212	13.28
438	25	0.05	1308	2.41	478	54	0.10	3227	5.94	518	135	0.25	7347	13.53
439	40	0.07	1348	2.48	479	73	0.13	3300	6.08	519	120	0.22	7467	13.75
440	25	0.05	1373	2.53	480	86	0.16	3386	6.23	520	117	0.22	7584	13.96
441	32	0.06	1405	2.59	481	74	0.14	3460	6.37	521	131	0.24	7715	14.20
442	37	0.07	1442	2.65	482	75	0.14	3535	6.51	522	142	0.26	7857	14.46
443	30	0.06	1472	2.71	483	69	0.13	3604	6.63	523	141	0.26	7998	14.72
444	33	0.06	1505	2.77	484	85	0.16	3689	6.79	524	149	0.27	8147	15.00
445	50	0.09	1555	2.86	485	75	0.14	3764	6.93	525	172	0.32	8319	15.31
446	40	0.07	1595	2.94	486	81	0.15	3845	7.08	526	194	0.36	8513	15.67
447	45	0.08	1640	3.02	487	70	0.13	3915	7.21	527	156	0.29	8669	15.96
448	38	0.07	1678	3.09	488	74	0.14	3989	7.34	528	183	0.34	8852	16.30
449	33	0.06	1711	3.15	489	85	0.16	4074	7.50	529	187	0.34	9039	16.64
450	39	0.07	1750	3.22	490	98	0.18	4172	7.68	530	180	0.33	9219	16.97
451	45	0.08	1795	3.30	491	112	0.21	4284	7.89	531	159	0.29	9378	17.26
452	46	0.08	1841	3.39	492	87	0.16	4371	8.05	532	193	0.36	9571	17.62
453	42	0.08	1883	3.47	493	86	0.16	4457	8.21	533	175	0.32	9746	17.94
454	50	0.09	1933	3.56	494	97	0.18	4554	8.38	534	181	0.33	9927	18.28
455	43	0.08	1976	3.64	495	104	0.19	4658	8.58	535	204	0.38	10131	18.65
456	49	0.09	2025	3.73	496	102	0.19	4760	8.76	536	183	0.34	10314	18.99
457	47	0.09	2072	3.81	497	99	0.18	4859	8.95	537	185	0.34	10499	19.33
458	44	0.08	2116	3.90	498	104	0.19	4963	9.14	538	202	0.37	10701	19.70
459	41	0.08	2157	3.97	499	104	0.19	5067	9.33	539	201	0.37	10902	20.07
460	42	0.08	2199	4.05	500	106	0.20	5173	9.52	540	205	0.38	11107	20.45
461	46	0.08	2245	4.13	501	113	0.21	5286	9.73	541	219	0.40	11326	20.85
462	49	0.09	2294	4.22	502	117	0.22	5403	9.95	542	211	0.39	11537	21.24
463	51	0.09	2345	4.32	503	115	0.21	5518	10.16	543	236	0.43	11773	21.67
464	51	0.09	2396	4.41	504	109	0.20	5627	10.36	544	219	0.40	11992	22.08
465	55	0.10	2451	4.51	505	142	0.26	5769	10.62	545	242	0.45	12234	22.52
466	50	0.09	2501	4.60	506	111	0.20	5880	10.82	546	209	0.38	12443	22.91
467	48	0.09	2549	4.69	507	128	0.24	6008	11.06	547	226	0.42	12669	23.32
468	50	0.09	2599	4.78	508	100	0.18	6108	11.24	548	205	0.38	12874	23.70
469	57	0.10	2656	4.89	509	97	0.18	6205	11.42	549	233	0.43	13107	24.13
470	62	0.11	2718	5.00	510	113	0.21	6318	11.63	550	258	0.47	13365	24.60

Table A-7. Reading 4 Scale Score Distribution (Continued)

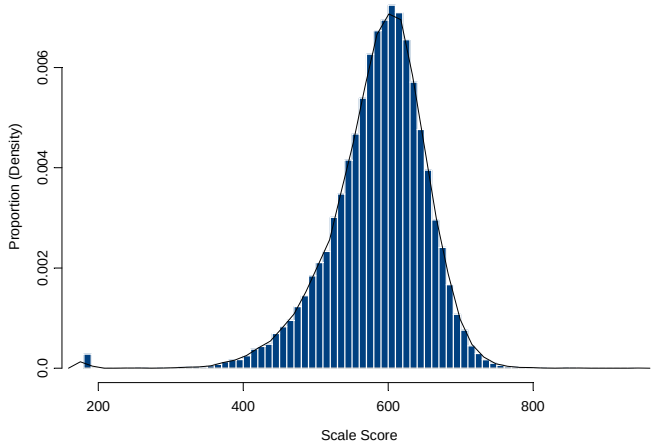
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
551	243	0.45	13608	25.05	591	371	0.68	26269	48.36	631	324	0.60	41349	76.12
552	213	0.39	13821	25.44	592	407	0.75	26676	49.11	632	315	0.58	41664	76.70
553	290	0.53	14111	25.98	593	376	0.69	27052	49.80	633	363	0.67	42027	77.37
554	240	0.44	14351	26.42	594	365	0.67	27417	50.47	634	312	0.57	42339	77.94
555	245	0.45	14596	26.87	595	388	0.71	27805	51.19	635	278	0.51	42617	78.46
556	259	0.48	14855	27.35	596	357	0.66	28162	51.84	636	302	0.56	42919	79.01
557	258	0.47	15113	27.82	597	387	0.71	28549	52.56	637	296	0.54	43215	79.56
558	287	0.53	15400	28.35	598	362	0.67	28911	53.22	638	307	0.57	43522	80.12
559	243	0.45	15643	28.80	599	370	0.68	29281	53.90	639	329	0.61	43851	80.73
560	261	0.48	15904	29.28	600	392	0.72	29673	54.63	640	275	0.51	44126	81.23
561	249	0.46	16153	29.74	601	395	0.73	30068	55.35	641	279	0.51	44405	81.75
562	302	0.56	16455	30.29	602	389	0.72	30457	56.07	642	265	0.49	44670	82.23
563	291	0.54	16746	30.83	603	403	0.74	30860	56.81	643	251	0.46	44921	82.70
564	312	0.57	17058	31.40	604	359	0.66	31219	57.47	644	262	0.48	45183	83.18
565	279	0.51	17337	31.92	605	420	0.77	31639	58.25	645	293	0.54	45476	83.72
566	288	0.53	17625	32.45	606	406	0.75	32045	58.99	646	266	0.49	45742	84.21
567	299	0.55	17924	33.00	607	371	0.68	32416	59.68	647	248	0.46	45990	84.66
568	308	0.57	18232	33.56	608	375	0.69	32791	60.37	648	257	0.47	46247	85.14
569	294	0.54	18526	34.11	609	404	0.74	33195	61.11	649	232	0.43	46479	85.57
570	307	0.57	18833	34.67	610	414	0.76	33609	61.87	650	236	0.43	46715	86.00
571	329	0.61	19162	35.28	611	365	0.67	33974	62.54	651	237	0.44	46952	86.44
572	327	0.60	19489	35.88	612	407	0.75	34381	63.29	652	251	0.46	47203	86.90
573	350	0.64	19839	36.52	613	396	0.73	34777	64.02	653	249	0.46	47452	87.36
574	344	0.63	20183	37.16	614	359	0.66	35136	64.68	654	199	0.37	47651	87.72
575	307	0.57	20490	37.72	615	383	0.71	35519	65.39	655	205	0.38	47856	88.10
576	348	0.64	20838	38.36	616	370	0.68	35889	66.07	656	175	0.32	48031	88.42
577	334	0.61	21172	38.98	617	416	0.77	36305	66.84	657	216	0.40	48247	88.82
578	352	0.65	21524	39.62	618	407	0.75	36712	67.58	658	239	0.44	48486	89.26
579	358	0.66	21882	40.28	619	383	0.71	37095	68.29	659	184	0.34	48670	89.60
580	357	0.66	22239	40.94	620	368	0.68	37463	68.97	660	193	0.36	48863	89.95
581	341	0.63	22580	41.57	621	386	0.71	37849	69.68	661	167	0.31	49030	90.26
582	358	0.66	22938	42.23	622	339	0.62	38188	70.30	662	177	0.33	49207	90.59
583	349	0.64	23287	42.87	623	377	0.69	38565	71.00	663	186	0.34	49393	90.93
584	360	0.66	23647	43.53	624	366	0.67	38931	71.67	664	169	0.31	49562	91.24
585	381	0.70	24028	44.23	625	379	0.70	39310	72.37	665	201	0.37	49763	91.61
586	395	0.73	24423	44.96	626	347	0.64	39657	73.01	666	146	0.27	49909	91.88
587	388	0.71	24811	45.68	627	331	0.61	39988	73.62	667	136	0.25	50045	92.13
588	363	0.67	25174	46.34	628	350	0.64	40338	74.26	668	161	0.30	50206	92.43
589	347	0.64	25521	46.98	629	316	0.58	40654	74.84	669	137	0.25	50343	92.68
590	377	0.69	25898	47.68	630	371	0.68	41025	75.52	670	128	0.24	50471	92.91

Table A-7. Reading 4 Scale Score Distribution (Continued)

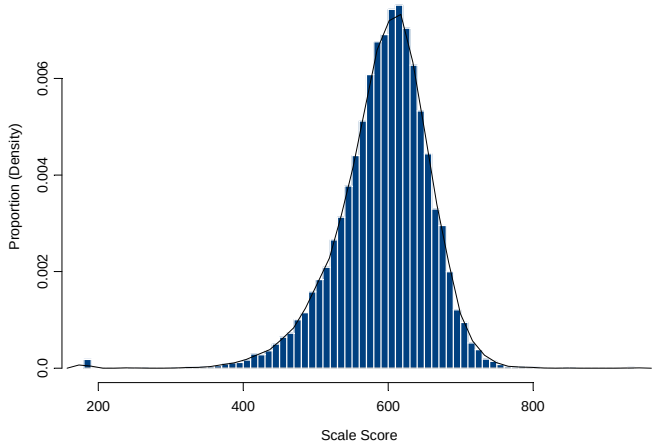
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
671	154	0.28	50625	93.20	712	28	0.05	53744	98.94	754	7	0.01	54246	99.86
672	135	0.25	50760	93.45	713	26	0.05	53770	98.99	755	3	0.01	54249	99.87
673	131	0.24	50891	93.69	714	24	0.04	53794	99.03	756	4	0.01	54253	99.88
674	140	0.26	51031	93.95	715	25	0.05	53819	99.08	758	2	0.00	54255	99.88
675	129	0.24	51160	94.18	716	21	0.04	53840	99.12	759	6	0.01	54261	99.89
676	130	0.24	51290	94.42	717	20	0.04	53860	99.15	760	2	0.00	54263	99.90
677	122	0.22	51412	94.65	718	18	0.03	53878	99.19	761	2	0.00	54265	99.90
678	117	0.22	51529	94.86	719	23	0.04	53901	99.23	762	3	0.01	54268	99.90
679	130	0.24	51659	95.10	720	27	0.05	53928	99.28	763	2	0.00	54270	99.91
680	122	0.22	51781	95.33	721	18	0.03	53946	99.31	764	1	0.00	54271	99.91
681	121	0.22	51902	95.55	722	14	0.03	53960	99.34	765	3	0.01	54274	99.92
682	128	0.24	52030	95.78	723	14	0.03	53974	99.36	766	2	0.00	54276	99.92
683	95	0.17	52125	95.96	724	13	0.02	53987	99.39	767	1	0.00	54277	99.92
684	83	0.15	52208	96.11	725	19	0.03	54006	99.42	769	2	0.00	54279	99.92
685	85	0.16	52293	96.27	726	17	0.03	54023	99.45	771	2	0.00	54281	99.93
686	93	0.17	52386	96.44	727	19	0.03	54042	99.49	772	1	0.00	54282	99.93
687	80	0.15	52466	96.59	728	16	0.03	54058	99.52	773	3	0.01	54285	99.94
688	80	0.15	52546	96.73	729	12	0.02	54070	99.54	774	2	0.00	54287	99.94
689	76	0.14	52622	96.87	730	17	0.03	54087	99.57	776	2	0.00	54289	99.94
690	65	0.12	52687	96.99	731	9	0.02	54096	99.59	777	1	0.00	54290	99.94
691	61	0.11	52748	97.11	732	8	0.01	54104	99.60	780	2	0.00	54292	99.95
692	59	0.11	52807	97.21	733	8	0.01	54112	99.62	782	2	0.00	54294	99.95
693	73	0.13	52880	97.35	734	10	0.02	54122	99.64	784	2	0.00	54296	99.96
694	60	0.11	52940	97.46	735	10	0.02	54132	99.65	785	1	0.00	54297	99.96
695	67	0.12	53007	97.58	736	13	0.02	54145	99.68	786	1	0.00	54298	99.96
696	56	0.10	53063	97.69	737	9	0.02	54154	99.69	787	1	0.00	54299	99.96
697	47	0.09	53110	97.77	738	10	0.02	54164	99.71	791	1	0.00	54300	99.96
698	60	0.11	53170	97.88	739	10	0.02	54174	99.73	797	2	0.00	54302	99.97
699	53	0.10	53223	97.98	740	4	0.01	54178	99.74	798	2	0.00	54304	99.97
700	49	0.09	53272	98.07	741	4	0.01	54182	99.75	799	1	0.00	54305	99.97
701	55	0.10	53327	98.17	742	9	0.02	54191	99.76	802	1	0.00	54306	99.97
702	49	0.09	53376	98.26	743	8	0.01	54199	99.78	803	2	0.00	54308	99.98
703	34	0.06	53410	98.32	744	11	0.02	54210	99.80	808	1	0.00	54309	99.98
704	42	0.08	53452	98.40	745	6	0.01	54216	99.81	810	1	0.00	54310	99.98
705	40	0.07	53492	98.48	746	6	0.01	54222	99.82	811	1	0.00	54311	99.98
706	43	0.08	53535	98.55	747	4	0.01	54226	99.83	844	1	0.00	54312	99.99
707	45	0.08	53580	98.64	748	3	0.01	54229	99.83	845	1	0.00	54313	99.99
708	34	0.06	53614	98.70	750	3	0.01	54232	99.84	857	3	0.01	54316	99.99
709	34	0.06	53648	98.76	751	1	0.00	54233	99.84	940	4	0.01	54320	100.00
710	37	0.07	53685	98.83	752	5	0.01	54238	99.85					
711	31	0.06	53716	98.89	753	1	0.00	54239	99.85					

Figure A-7. Reading 4 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 4 Scale Score Distribution (Total)



2005 Reading 4 Scale Score Distribution (Female)



2005 Reading 4 Scale Score Distribution (Male)

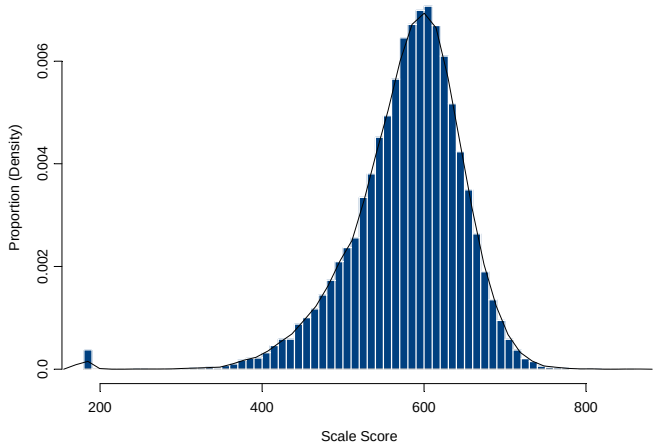


Table A-8. Spanish Reading 4 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

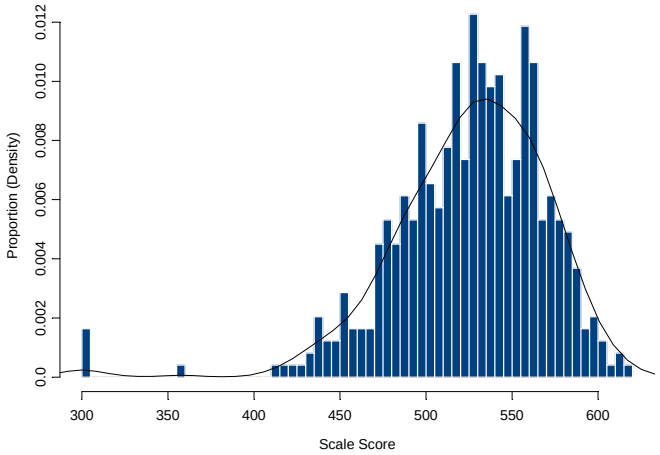
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
300	4	0.82	4	0.82	485	3	0.61	76	15.54	525	4	0.82	218	44.58
357	1	0.20	5	1.02	486	1	0.20	77	15.75	526	8	1.64	226	46.22
415	1	0.20	6	1.23	487	5	1.02	82	16.77	527	3	0.61	229	46.83
416	1	0.20	7	1.43	488	4	0.82	86	17.59	528	6	1.23	235	48.06
423	1	0.20	8	1.64	489	3	0.61	89	18.20	529	7	1.43	242	49.49
430	1	0.20	9	1.84	490	2	0.41	91	18.61	530	6	1.23	248	50.72
431	1	0.20	10	2.04	491	3	0.61	94	19.22	531	4	0.82	252	51.53
435	1	0.20	11	2.25	492	2	0.41	96	19.63	532	5	1.02	257	52.56
436	2	0.41	13	2.66	493	3	0.61	99	20.25	533	7	1.43	264	53.99
437	3	0.61	16	3.27	494	3	0.61	102	20.86	534	5	1.02	269	55.01
441	2	0.41	18	3.68	495	2	0.41	104	21.27	535	5	1.02	274	56.03
442	1	0.20	19	3.89	496	2	0.41	106	21.68	536	6	1.23	280	57.26
447	3	0.61	22	4.50	497	6	1.23	112	22.90	537	3	0.61	283	57.87
451	1	0.20	23	4.70	498	6	1.23	118	24.13	538	3	0.61	286	58.49
452	2	0.41	25	5.11	499	5	1.02	123	25.15	539	6	1.23	292	59.71
453	1	0.20	26	5.32	500	2	0.41	125	25.56	540	6	1.23	298	60.94
454	1	0.20	27	5.52	501	3	0.61	128	26.18	541	4	0.82	302	61.76
455	2	0.41	29	5.93	502	2	0.41	130	26.58	542	3	0.61	305	62.37
456	1	0.20	30	6.13	503	2	0.41	132	26.99	543	4	0.82	309	63.19
458	1	0.20	31	6.34	504	3	0.61	135	27.61	544	5	1.02	314	64.21
459	1	0.20	32	6.54	505	6	1.23	141	28.83	545	9	1.84	323	66.05
460	1	0.20	33	6.75	506	3	0.61	144	29.45	546	3	0.61	326	66.67
462	2	0.41	35	7.16	507	1	0.20	145	29.65	547	2	0.41	328	67.08
463	1	0.20	36	7.36	508	2	0.41	147	30.06	548	5	1.02	333	68.10
465	1	0.20	37	7.57	509	2	0.41	149	30.47	549	2	0.41	335	68.51
467	2	0.41	39	7.98	510	6	1.23	155	31.70	550	3	0.61	338	69.12
468	2	0.41	41	8.38	511	4	0.82	159	32.52	551	3	0.61	341	69.73
471	2	0.41	43	8.79	512	5	1.02	164	33.54	552	3	0.61	344	70.35
472	4	0.82	47	9.61	513	2	0.41	166	33.95	553	3	0.61	347	70.96
474	4	0.82	51	10.43	514	3	0.61	169	34.56	554	2	0.41	349	71.37
475	1	0.20	52	10.63	515	5	1.02	174	35.58	555	7	1.43	356	72.80
476	1	0.20	53	10.84	516	4	0.82	178	36.40	556	4	0.82	360	73.62
477	2	0.41	55	11.25	517	7	1.43	185	37.83	557	5	1.02	365	74.64
478	3	0.61	58	11.86	518	5	1.02	190	38.85	558	5	1.02	370	75.66
479	4	0.82	62	12.68	519	5	1.02	195	39.88	559	8	1.64	378	77.30
480	3	0.61	65	13.29	520	5	1.02	200	40.90	560	7	1.43	385	78.73
481	2	0.41	67	13.70	521	3	0.61	203	41.51	561	7	1.43	392	80.16
482	2	0.41	69	14.11	522	4	0.82	207	42.33	562	2	0.41	394	80.57
483	2	0.41	71	14.52	523	3	0.61	210	42.94	563	7	1.43	401	82.00
484	2	0.41	73	14.93	524	4	0.82	214	43.76	564	1	0.20	402	82.21

Table A-8. Spanish Reading 4 Scale Score Distribution (Continued)

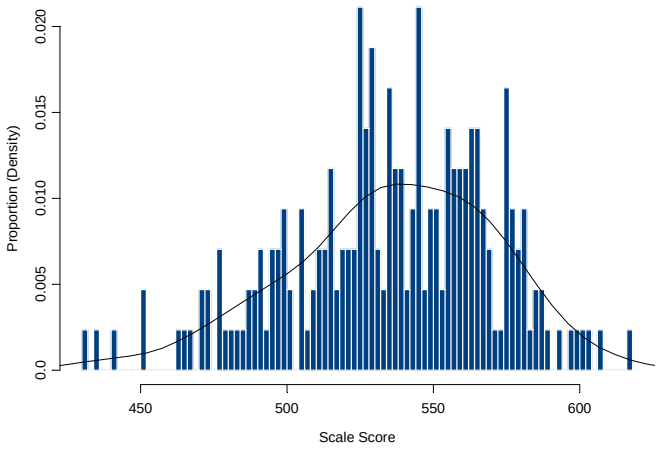
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
565	9	1.84	411	84.05										
566	3	0.61	414	84.66										
567	2	0.41	416	85.07										
568	3	0.61	419	85.69										
569	2	0.41	421	86.09										
570	3	0.61	424	86.71										
571	4	0.82	428	87.53										
573	1	0.20	429	87.73										
574	3	0.61	432	88.34										
575	7	1.43	439	89.78										
576	3	0.61	442	90.39										
577	4	0.82	446	91.21										
578	1	0.20	447	91.41										
579	1	0.20	448	91.62										
580	4	0.82	452	92.43										
581	2	0.41	454	92.84										
582	5	1.02	459	93.87										
583	3	0.61	462	94.48										
584	1	0.20	463	94.68										
585	1	0.20	464	94.89										
586	1	0.20	465	95.09										
587	2	0.41	467	95.50										
588	1	0.20	468	95.71										
589	2	0.41	470	96.11										
590	3	0.61	473	96.73										
591	2	0.41	475	97.14										
592	1	0.20	476	97.34										
593	1	0.20	477	97.55										
596	1	0.20	478	97.75										
597	1	0.20	479	97.96										
598	1	0.20	480	98.16										
599	2	0.41	482	98.57										
601	1	0.20	483	98.77										
603	1	0.20	484	98.98										
604	1	0.20	485	99.18										
608	1	0.20	486	99.39										
611	1	0.20	487	99.59										
613	1	0.20	488	99.80										
617	1	0.20	489	100.00										

Figure A-8. Spanish Reading 4 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Spanish Reading 4 Scale Score Distribution (Total)



2005 Spanish Reading 4 Scale Score Distribution (Female)



2005 Spanish Reading 4 Scale Score Distribution (Male)

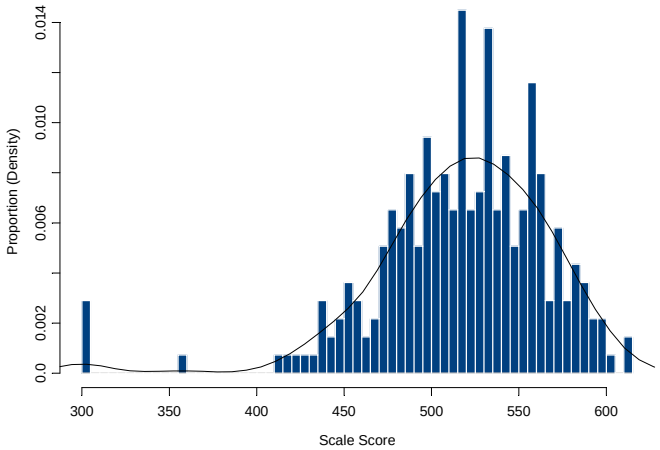


Table A-9. Writing 4 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
190	7	0.01	7	0.01	274	2	0.00	63	0.12	319	5	0.01	175	0.32
202	1	0.00	8	0.01	276	1	0.00	64	0.12	320	3	0.01	178	0.33
204	1	0.00	9	0.02	277	4	0.01	68	0.13	321	5	0.01	183	0.34
205	1	0.00	10	0.02	279	1	0.00	69	0.13	322	4	0.01	187	0.34
207	2	0.00	12	0.02	281	1	0.00	70	0.13	323	5	0.01	192	0.35
209	3	0.01	15	0.03	282	3	0.01	73	0.13	324	8	0.01	200	0.37
211	1	0.00	16	0.03	283	1	0.00	74	0.14	325	6	0.01	206	0.38
213	1	0.00	17	0.03	284	1	0.00	75	0.14	326	7	0.01	213	0.39
215	1	0.00	18	0.03	285	3	0.01	78	0.14	327	7	0.01	220	0.40
217	1	0.00	19	0.03	286	1	0.00	79	0.15	328	7	0.01	227	0.42
218	1	0.00	20	0.04	288	1	0.00	80	0.15	329	7	0.01	234	0.43
220	2	0.00	22	0.04	289	1	0.00	81	0.15	330	5	0.01	239	0.44
221	1	0.00	23	0.04	291	1	0.00	82	0.15	331	5	0.01	244	0.45
222	1	0.00	24	0.04	292	2	0.00	84	0.15	332	11	0.02	255	0.47
223	1	0.00	25	0.05	293	3	0.01	87	0.16	333	4	0.01	259	0.48
224	1	0.00	26	0.05	294	1	0.00	88	0.16	334	11	0.02	270	0.50
225	1	0.00	27	0.05	295	2	0.00	90	0.17	335	8	0.01	278	0.51
226	2	0.00	29	0.05	296	2	0.00	92	0.17	336	11	0.02	289	0.53
228	1	0.00	30	0.06	297	3	0.01	95	0.17	337	9	0.02	298	0.55
231	1	0.00	31	0.06	298	1	0.00	96	0.18	338	14	0.03	312	0.57
235	1	0.00	32	0.06	299	3	0.01	99	0.18	339	11	0.02	323	0.59
239	1	0.00	33	0.06	300	3	0.01	102	0.19	340	13	0.02	336	0.62
244	1	0.00	34	0.06	301	3	0.01	105	0.19	341	9	0.02	345	0.63
245	1	0.00	35	0.06	302	3	0.01	108	0.20	342	9	0.02	354	0.65
246	1	0.00	36	0.07	303	1	0.00	109	0.20	343	13	0.02	367	0.68
247	1	0.00	37	0.07	304	6	0.01	115	0.21	344	14	0.03	381	0.70
250	1	0.00	38	0.07	305	1	0.00	116	0.21	345	10	0.02	391	0.72
252	1	0.00	39	0.07	306	6	0.01	122	0.22	346	9	0.02	400	0.74
253	1	0.00	40	0.07	307	1	0.00	123	0.23	347	15	0.03	415	0.76
254	1	0.00	41	0.08	308	5	0.01	128	0.24	348	13	0.02	428	0.79
257	2	0.00	43	0.08	309	6	0.01	134	0.25	349	10	0.02	438	0.81
258	2	0.00	45	0.08	310	5	0.01	139	0.26	350	11	0.02	449	0.83
261	1	0.00	46	0.08	311	2	0.00	141	0.26	351	27	0.05	476	0.88
264	3	0.01	49	0.09	312	6	0.01	147	0.27	352	25	0.05	501	0.92
265	3	0.01	52	0.10	313	8	0.01	155	0.29	353	19	0.03	520	0.96
267	2	0.00	54	0.10	314	2	0.00	157	0.29	354	22	0.04	542	1.00
269	3	0.01	57	0.10	315	5	0.01	162	0.30	355	17	0.03	559	1.03
270	2	0.00	59	0.11	316	6	0.01	168	0.31	356	18	0.03	577	1.06
271	1	0.00	60	0.11	317	1	0.00	169	0.31	357	22	0.04	599	1.10
273	1	0.00	61	0.11	318	1	0.00	170	0.31	358	19	0.03	618	1.14

Table A-9. Writing 4 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
359	21	0.04	639	1.18	399	78	0.14	2780	5.12	439	264	0.49	9552	17.58
360	22	0.04	661	1.22	400	105	0.19	2885	5.31	440	237	0.44	9789	18.01
361	27	0.05	688	1.27	401	92	0.17	2977	5.48	441	262	0.48	10051	18.50
362	26	0.05	714	1.31	402	94	0.17	3071	5.65	442	267	0.49	10318	18.99
363	21	0.04	735	1.35	403	96	0.18	3167	5.83	443	283	0.52	10601	19.51
364	28	0.05	763	1.40	404	112	0.21	3279	6.03	444	303	0.56	10904	20.07
365	29	0.05	792	1.46	405	124	0.23	3403	6.26	445	279	0.51	11183	20.58
366	37	0.07	829	1.53	406	117	0.22	3520	6.48	446	275	0.51	11458	21.09
367	35	0.06	864	1.59	407	124	0.23	3644	6.71	447	284	0.52	11742	21.61
368	37	0.07	901	1.66	408	117	0.22	3761	6.92	448	289	0.53	12031	22.14
369	28	0.05	929	1.71	409	128	0.24	3889	7.16	449	289	0.53	12320	22.67
370	30	0.06	959	1.76	410	114	0.21	4003	7.37	450	351	0.65	12671	23.32
371	36	0.07	995	1.83	411	127	0.23	4130	7.60	451	318	0.59	12989	23.90
372	32	0.06	1027	1.89	412	141	0.26	4271	7.86	452	319	0.59	13308	24.49
373	46	0.08	1073	1.97	413	126	0.23	4397	8.09	453	337	0.62	13645	25.11
374	47	0.09	1120	2.06	414	153	0.28	4550	8.37	454	308	0.57	13953	25.68
375	46	0.08	1166	2.15	415	144	0.27	4694	8.64	455	340	0.63	14293	26.30
376	39	0.07	1205	2.22	416	144	0.27	4838	8.90	456	332	0.61	14625	26.91
377	43	0.08	1248	2.30	417	167	0.31	5005	9.21	457	325	0.60	14950	27.51
378	49	0.09	1297	2.39	418	166	0.31	5171	9.52	458	321	0.59	15271	28.10
379	37	0.07	1334	2.45	419	183	0.34	5354	9.85	459	355	0.65	15626	28.76
380	51	0.09	1385	2.55	420	150	0.28	5504	10.13	460	342	0.63	15968	29.39
381	43	0.08	1428	2.63	421	170	0.31	5674	10.44	461	375	0.69	16343	30.08
382	50	0.09	1478	2.72	422	195	0.36	5869	10.80	462	327	0.60	16670	30.68
383	69	0.13	1547	2.85	423	178	0.33	6047	11.13	463	386	0.71	17056	31.39
384	69	0.13	1616	2.97	424	183	0.34	6230	11.47	464	357	0.66	17413	32.05
385	81	0.15	1697	3.12	425	166	0.31	6396	11.77	465	382	0.70	17795	32.75
386	54	0.10	1751	3.22	426	184	0.34	6580	12.11	466	382	0.70	18177	33.45
387	79	0.15	1830	3.37	427	185	0.34	6765	12.45	467	383	0.70	18560	34.16
388	84	0.15	1914	3.52	428	220	0.40	6985	12.85	468	362	0.67	18922	34.82
389	60	0.11	1974	3.63	429	221	0.41	7206	13.26	469	428	0.79	19350	35.61
390	74	0.14	2048	3.77	430	206	0.38	7412	13.64	470	410	0.75	19760	36.36
391	86	0.16	2134	3.93	431	224	0.41	7636	14.05	471	393	0.72	20153	37.09
392	71	0.13	2205	4.06	432	236	0.43	7872	14.49	472	411	0.76	20564	37.84
393	67	0.12	2272	4.18	433	230	0.42	8102	14.91	473	415	0.76	20979	38.61
394	77	0.14	2349	4.32	434	223	0.41	8325	15.32	474	475	0.87	21454	39.48
395	95	0.17	2444	4.50	435	222	0.41	8547	15.73	475	418	0.77	21872	40.25
396	79	0.15	2523	4.64	436	239	0.44	8786	16.17	476	410	0.75	22282	41.01
397	85	0.16	2608	4.80	437	263	0.48	9049	16.65	477	425	0.78	22707	41.79
398	94	0.17	2702	4.97	438	239	0.44	9288	17.09	478	412	0.76	23119	42.55

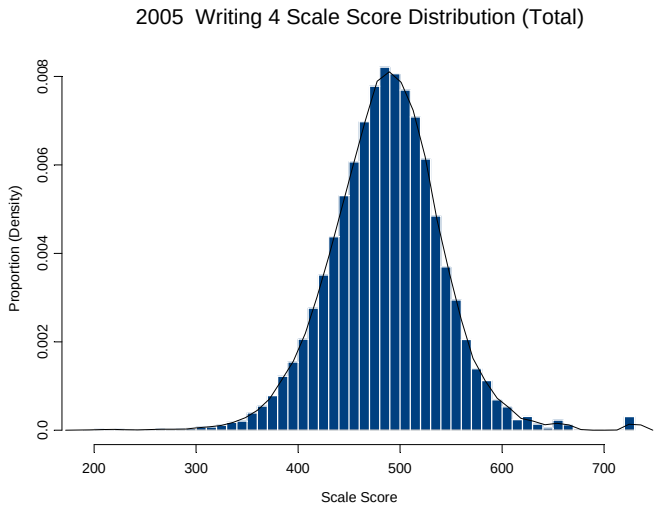
Table A-9. Writing 4 Scale Score Distribution (Continued)

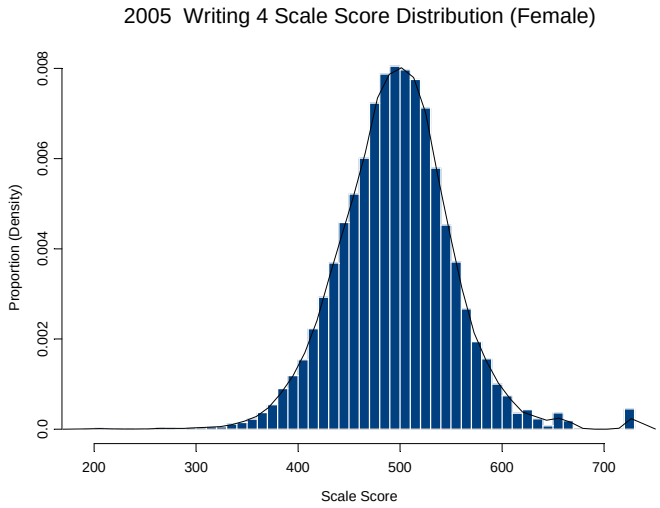
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
479	411	0.76	23530	43.30	519	343	0.63	40511	74.55	559	141	0.26	50336	92.63
480	458	0.84	23988	44.15	520	353	0.65	40864	75.20	560	105	0.19	50441	92.83
481	449	0.83	24437	44.97	521	385	0.71	41249	75.91	561	120	0.22	50561	93.05
482	450	0.83	24887	45.80	522	332	0.61	41581	76.52	562	113	0.21	50674	93.26
483	473	0.87	25360	46.67	523	348	0.64	41929	77.16	563	122	0.22	50796	93.48
484	468	0.86	25828	47.53	524	365	0.67	42294	77.83	564	249	0.46	51045	93.94
485	436	0.80	26264	48.33	525	319	0.59	42613	78.42	565	79	0.15	51124	94.08
486	450	0.83	26714	49.16	526	358	0.66	42971	79.08	566	106	0.20	51230	94.28
487	432	0.80	27146	49.96	527	297	0.55	43268	79.63	567	94	0.17	51324	94.45
488	446	0.82	27592	50.78	528	311	0.57	43579	80.20	568	69	0.13	51393	94.58
489	433	0.80	28025	51.57	529	309	0.57	43888	80.77	569	98	0.18	51491	94.76
490	425	0.78	28450	52.36	530	310	0.57	44198	81.34	570	65	0.12	51556	94.88
491	449	0.83	28899	53.18	531	301	0.55	44499	81.89	571	60	0.11	51616	94.99
492	451	0.83	29350	54.01	532	328	0.60	44827	82.50	572	87	0.16	51703	95.15
493	390	0.72	29740	54.73	533	275	0.51	45102	83.00	573	161	0.30	51864	95.45
494	460	0.85	30200	55.58	534	261	0.48	45363	83.48	574	48	0.09	51912	95.53
495	456	0.84	30656	56.42	535	235	0.43	45598	83.91	575	98	0.18	52010	95.71
496	454	0.84	31110	57.25	536	263	0.48	45861	84.40	576	57	0.10	52067	95.82
497	404	0.74	31514	58.00	537	230	0.42	46091	84.82	577	58	0.11	52125	95.93
498	433	0.80	31947	58.79	538	240	0.44	46331	85.26	578	51	0.09	52176	96.02
499	434	0.80	32381	59.59	539	259	0.48	46590	85.74	579	73	0.13	52249	96.15
500	451	0.83	32832	60.42	540	241	0.44	46831	86.18	580	62	0.11	52311	96.27
501	446	0.82	33278	61.24	541	241	0.44	47072	86.63	581	48	0.09	52359	96.36
502	435	0.80	33713	62.04	542	241	0.44	47313	87.07	582	72	0.13	52431	96.49
503	425	0.78	34138	62.82	543	217	0.40	47530	87.47	583	88	0.16	52519	96.65
504	426	0.78	34564	63.61	544	188	0.35	47718	87.82	584	74	0.14	52593	96.79
505	447	0.82	35011	64.43	545	217	0.40	47935	88.21	585	42	0.08	52635	96.86
506	393	0.72	35404	65.15	546	199	0.37	48134	88.58	586	114	0.21	52749	97.07
507	382	0.70	35786	65.86	547	178	0.33	48312	88.91	587	43	0.08	52792	97.15
508	381	0.70	36167	66.56	548	159	0.29	48471	89.20	588	46	0.08	52838	97.24
509	422	0.78	36589	67.33	549	204	0.38	48675	89.58	589	36	0.07	52874	97.30
510	424	0.78	37013	68.11	550	164	0.30	48839	89.88	590	45	0.08	52919	97.39
511	400	0.74	37413	68.85	551	258	0.47	49097	90.35	591	29	0.05	52948	97.44
512	406	0.75	37819	69.60	552	136	0.25	49233	90.60	592	31	0.06	52979	97.50
513	397	0.73	38216	70.33	553	194	0.36	49427	90.96	593	28	0.05	53007	97.55
514	389	0.72	38605	71.04	554	230	0.42	49657	91.38	594	33	0.06	53040	97.61
515	401	0.74	39006	71.78	555	159	0.29	49816	91.68	595	36	0.07	53076	97.68
516	370	0.68	39376	72.46	556	134	0.25	49950	91.92	596	27	0.05	53103	97.73
517	378	0.70	39754	73.16	557	135	0.25	50085	92.17	597	15	0.03	53118	97.75
518	414	0.76	40168	73.92	558	110	0.20	50195	92.37	598	36	0.07	53154	97.82

Table A-9. Writing 4 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
599	20	0.04	53174	97.86	642	19	0.03	53981	99.34					
600	118	0.22	53292	98.07	651	18	0.03	53999	99.37					
601	18	0.03	53310	98.11	652	22	0.04	54021	99.41					
602	34	0.06	53344	98.17	653	13	0.02	54034	99.44					
603	32	0.06	53376	98.23	656	34	0.06	54068	99.50					
604	107	0.20	53483	98.42	657	4	0.01	54072	99.51					
605	28	0.05	53511	98.48	658	19	0.03	54091	99.54					
606	5	0.01	53516	98.49	659	15	0.03	54106	99.57					
607	19	0.03	53535	98.52	664	26	0.05	54132	99.62					
608	12	0.02	53547	98.54	666	38	0.07	54170	99.69					
609	19	0.03	53566	98.58	669	2	0.00	54172	99.69					
610	13	0.02	53579	98.60	671	1	0.00	54173	99.69					
611	13	0.02	53592	98.63	730	166	0.31	54339	100.00					
612	18	0.03	53610	98.66										
613	21	0.04	53631	98.70										
614	6	0.01	53637	98.71										
615	21	0.04	53658	98.75										
616	26	0.05	53684	98.79										
617	5	0.01	53689	98.80										
618	11	0.02	53700	98.82										
619	5	0.01	53705	98.83										
620	3	0.01	53708	98.84										
621	19	0.03	53727	98.87										
622	16	0.03	53743	98.90										
623	4	0.01	53747	98.91										
624	28	0.05	53775	98.96										
625	35	0.06	53810	99.03										
626	13	0.02	53823	99.05										
627	2	0.00	53825	99.05										
628	17	0.03	53842	99.09										
629	24	0.04	53866	99.13										
630	12	0.02	53878	99.15										
632	8	0.01	53886	99.17										
633	6	0.01	53892	99.18										
635	15	0.03	53907	99.20										
636	6	0.01	53913	99.22										
637	5	0.01	53918	99.23										
638	20	0.04	53938	99.26										
640	15	0.03	53953	99.29										
641	9	0.02	53962	99.31										

Figure A-9. Writing 4 Scale Score Distributions for the Total Population, Female, and Male Students





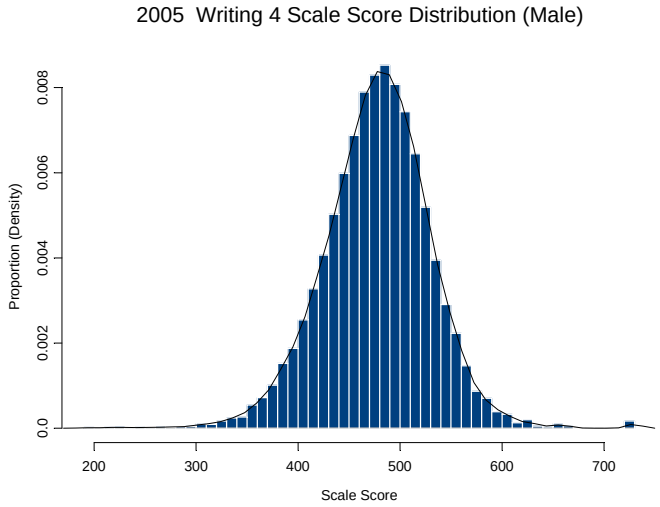


Table A-10. Spanish Writing 4 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

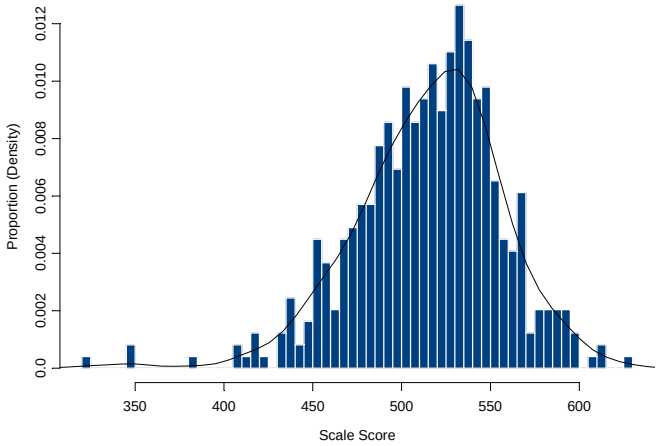
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
324	1	0.20	1	0.20	474	1	0.20	71	14.49	514	4	0.82	222	45.31
347	1	0.20	2	0.41	475	3	0.61	74	15.10	515	5	1.02	227	46.33
349	1	0.20	3	0.61	476	1	0.20	75	15.31	516	8	1.63	235	47.96
381	1	0.20	4	0.82	477	1	0.20	76	15.51	517	5	1.02	240	48.98
408	1	0.20	5	1.02	478	6	1.22	82	16.73	518	3	0.61	243	49.59
409	1	0.20	6	1.22	479	3	0.61	85	17.35	519	5	1.02	248	50.61
415	1	0.20	7	1.43	480	3	0.61	88	17.96	520	5	1.02	253	51.63
417	1	0.20	8	1.63	481	3	0.61	91	18.57	521	5	1.02	258	52.65
418	1	0.20	9	1.84	482	3	0.61	94	19.18	522	4	0.82	262	53.47
419	1	0.20	10	2.04	483	4	0.82	98	20.00	523	7	1.43	269	54.90
425	1	0.20	11	2.24	484	2	0.41	100	20.41	524	2	0.41	271	55.31
431	1	0.20	12	2.45	485	2	0.41	102	20.82	525	4	0.82	275	56.12
433	1	0.20	13	2.65	486	2	0.41	104	21.22	526	3	0.61	278	56.73
434	1	0.20	14	2.86	487	2	0.41	106	21.63	527	8	1.63	286	58.37
437	1	0.20	15	3.06	488	3	0.61	109	22.24	528	6	1.22	292	59.59
438	2	0.41	17	3.47	489	8	1.63	117	23.88	529	6	1.22	298	60.82
439	1	0.20	18	3.67	490	4	0.82	121	24.69	530	4	0.82	302	61.63
440	2	0.41	20	4.08	491	4	0.82	125	25.51	531	7	1.43	309	63.06
441	1	0.20	21	4.29	492	4	0.82	129	26.33	532	8	1.63	317	64.69
444	1	0.20	22	4.49	493	4	0.82	133	27.14	533	4	0.82	321	65.51
446	1	0.20	23	4.69	494	8	1.63	141	28.78	534	9	1.84	330	67.35
449	1	0.20	24	4.90	495	1	0.20	142	28.98	535	3	0.61	333	67.96
450	2	0.41	26	5.31	496	4	0.82	146	29.80	536	7	1.43	340	69.39
451	5	1.02	31	6.33	497	3	0.61	149	30.41	537	5	1.02	345	70.41
453	3	0.61	34	6.94	498	2	0.41	151	30.82	538	11	2.24	356	72.65
454	3	0.61	37	7.55	499	5	1.02	156	31.84	539	3	0.61	359	73.27
456	2	0.41	39	7.96	500	3	0.61	159	32.45	540	2	0.41	361	73.67
457	3	0.61	42	8.57	501	4	0.82	163	33.27	541	5	1.02	366	74.69
458	1	0.20	43	8.78	502	3	0.61	166	33.88	542	5	1.02	371	75.71
459	3	0.61	46	9.39	503	1	0.20	167	34.08	543	5	1.02	376	76.73
461	1	0.20	47	9.59	504	6	1.22	173	35.31	544	6	1.22	382	77.96
462	1	0.20	48	9.80	505	10	2.04	183	37.35	545	2	0.41	384	78.37
463	1	0.20	49	10.00	506	7	1.43	190	38.78	546	6	1.22	390	79.59
464	2	0.41	51	10.41	507	3	0.61	193	39.39	547	3	0.61	393	80.20
466	5	1.02	56	11.43	508	1	0.20	194	39.59	548	5	1.02	398	81.22
467	4	0.82	60	12.24	509	3	0.61	197	40.20	549	5	1.02	403	82.24
469	1	0.20	61	12.45	510	7	1.43	204	41.63	550	5	1.02	408	83.27
470	1	0.20	62	12.65	511	7	1.43	211	43.06	551	2	0.41	410	83.67
471	3	0.61	65	13.27	512	6	1.22	217	44.29	552	5	1.02	415	84.69
472	5	1.02	70	14.29	513	1	0.20	218	44.49	553	5	1.02	420	85.71

Table A-10. Spanish Writing 4 Scale Score Distribution (Continued)

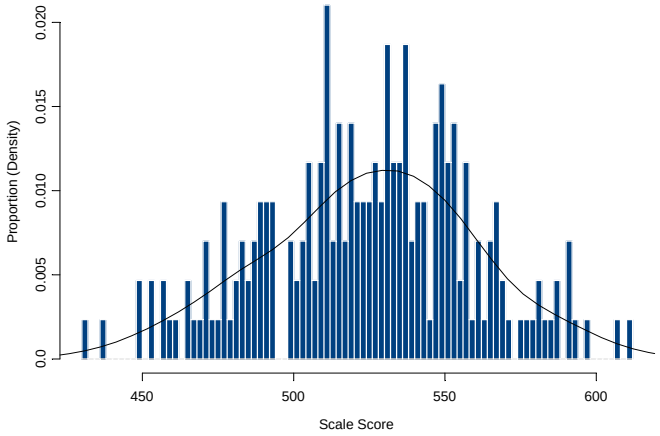
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
554	4	0.82	424	86.53										
556	4	0.82	428	87.35										
557	2	0.41	430	87.76										
558	4	0.82	434	88.57										
559	1	0.20	435	88.78										
561	3	0.61	438	89.39										
562	4	0.82	442	90.20										
564	1	0.20	443	90.41										
565	2	0.41	445	90.82										
566	4	0.82	449	91.63										
567	4	0.82	453	92.45										
568	2	0.41	455	92.86										
569	1	0.20	456	93.06										
570	4	0.82	460	93.88										
571	1	0.20	461	94.08										
572	1	0.20	462	94.29										
575	1	0.20	463	94.49										
576	1	0.20	464	94.69										
577	1	0.20	465	94.90										
578	1	0.20	466	95.10										
579	1	0.20	467	95.31										
580	1	0.20	468	95.51										
581	1	0.20	469	95.71										
582	1	0.20	470	95.92										
583	1	0.20	471	96.12										
584	2	0.41	473	96.53										
586	1	0.20	474	96.73										
587	3	0.61	477	97.35										
590	1	0.20	478	97.55										
591	2	0.41	480	97.96										
592	1	0.20	481	98.16										
594	2	0.41	483	98.57										
597	2	0.41	485	98.98										
598	1	0.20	486	99.18										
607	1	0.20	487	99.39										
612	1	0.20	488	99.59										
614	1	0.20	489	99.80										
626	1	0.20	490	100.00										

Figure A-10. Spanish Writing 4 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Spanish Writing 4 Scale Score Distribution (Total)



2005 Spanish Writing 4 Scale Score Distribution (Female)



2005 Spanish Writing 4 Scale Score Distribution (Male)

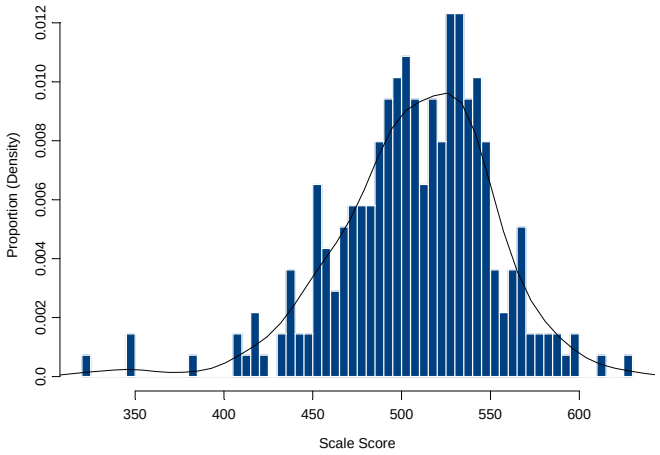


Table A-11. Mathematics 5 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
220	38	0.07	38	0.07	274	3	0.01	123	0.22	317	13	0.02	438	0.79
221	2	0.00	40	0.07	275	2	0.00	125	0.23	318	14	0.03	452	0.82
222	1	0.00	41	0.07	276	3	0.01	128	0.23	319	13	0.02	465	0.84
223	1	0.00	42	0.08	277	2	0.00	130	0.24	320	20	0.04	485	0.88
225	1	0.00	43	0.08	278	3	0.01	133	0.24	321	11	0.02	496	0.90
226	3	0.01	46	0.08	279	6	0.01	139	0.25	322	12	0.02	508	0.92
227	1	0.00	47	0.08	280	6	0.01	145	0.26	323	15	0.03	523	0.95
229	1	0.00	48	0.09	281	5	0.01	150	0.27	324	19	0.03	542	0.98
232	1	0.00	49	0.09	282	7	0.01	157	0.28	325	17	0.03	559	1.01
234	3	0.01	52	0.09	283	7	0.01	164	0.30	326	19	0.03	578	1.04
235	1	0.00	53	0.10	284	7	0.01	171	0.31	327	10	0.02	588	1.06
236	1	0.00	54	0.10	285	5	0.01	176	0.32	328	9	0.02	597	1.08
239	1	0.00	55	0.10	286	5	0.01	181	0.33	329	13	0.02	610	1.10
242	1	0.00	56	0.10	287	11	0.02	192	0.35	330	13	0.02	623	1.13
243	1	0.00	57	0.10	288	5	0.01	197	0.36	331	15	0.03	638	1.15
244	3	0.01	60	0.11	289	8	0.01	205	0.37	332	16	0.03	654	1.18
245	2	0.00	62	0.11	290	7	0.01	212	0.38	333	18	0.03	672	1.21
246	2	0.00	64	0.12	291	7	0.01	219	0.40	334	26	0.05	698	1.26
247	3	0.01	67	0.12	292	3	0.01	222	0.40	335	16	0.03	714	1.29
248	1	0.00	68	0.12	293	10	0.02	232	0.42	336	21	0.04	735	1.33
249	3	0.01	71	0.13	294	5	0.01	237	0.43	337	23	0.04	758	1.37
250	1	0.00	72	0.13	295	11	0.02	248	0.45	338	17	0.03	775	1.40
251	2	0.00	74	0.13	296	4	0.01	252	0.46	339	27	0.05	802	1.45
252	1	0.00	75	0.14	297	6	0.01	258	0.47	340	20	0.04	822	1.49
253	1	0.00	76	0.14	298	6	0.01	264	0.48	341	28	0.05	850	1.54
254	1	0.00	77	0.14	299	7	0.01	271	0.49	342	30	0.05	880	1.59
255	2	0.00	79	0.14	300	10	0.02	281	0.51	343	26	0.05	906	1.64
256	1	0.00	80	0.14	301	2	0.00	283	0.51	344	30	0.05	936	1.69
257	2	0.00	82	0.15	302	4	0.01	287	0.52	345	22	0.04	958	1.73
258	2	0.00	84	0.15	303	12	0.02	299	0.54	346	22	0.04	980	1.77
259	1	0.00	85	0.15	304	9	0.02	308	0.56	347	31	0.06	1011	1.83
260	2	0.00	87	0.16	305	4	0.01	312	0.56	348	33	0.06	1044	1.89
262	2	0.00	89	0.16	306	11	0.02	323	0.58	349	42	0.08	1086	1.96
263	5	0.01	94	0.17	307	9	0.02	332	0.60	350	23	0.04	1109	2.00
264	4	0.01	98	0.18	308	10	0.02	342	0.62	351	33	0.06	1142	2.06
265	3	0.01	101	0.18	309	7	0.01	349	0.63	352	35	0.06	1177	2.13
266	2	0.00	103	0.19	310	6	0.01	355	0.64	353	26	0.05	1203	2.17
267	7	0.01	110	0.20	311	4	0.01	359	0.65	354	31	0.06	1234	2.23
268	1	0.00	111	0.20	312	10	0.02	369	0.67	355	36	0.07	1270	2.30
270	2	0.00	113	0.20	313	11	0.02	380	0.69	356	35	0.06	1305	2.36
271	2	0.00	115	0.21	314	9	0.02	389	0.70	357	31	0.06	1336	2.42
272	3	0.01	118	0.21	315	16	0.03	405	0.73	358	50	0.09	1386	2.51
273	2	0.00	120	0.22	316	20	0.04	425	0.77	359	32	0.06	1418	2.56

Table A-11. Mathematics 5 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
360	36	0.07	1454	2.63	405	85	0.15	4078	7.37	450	186	0.34	10099	18.26
361	27	0.05	1481	2.68	406	100	0.18	4178	7.55	451	189	0.34	10288	18.60
362	42	0.08	1523	2.75	407	86	0.16	4264	7.71	452	178	0.32	10466	18.92
363	38	0.07	1561	2.82	408	91	0.16	4355	7.87	453	174	0.31	10640	19.24
364	32	0.06	1593	2.88	409	98	0.18	4453	8.05	454	196	0.35	10836	19.59
365	23	0.04	1616	2.92	410	101	0.18	4554	8.23	455	204	0.37	11040	19.96
366	39	0.07	1655	2.99	411	105	0.19	4659	8.42	456	181	0.33	11221	20.29
367	49	0.09	1704	3.08	412	90	0.16	4749	8.59	457	173	0.31	11394	20.60
368	54	0.10	1758	3.18	413	94	0.17	4843	8.76	458	172	0.31	11566	20.91
369	29	0.05	1787	3.23	414	102	0.18	4945	8.94	459	183	0.33	11749	21.24
370	41	0.07	1828	3.30	415	107	0.19	5052	9.13	460	218	0.39	11967	21.63
371	46	0.08	1874	3.39	416	122	0.22	5174	9.35	461	218	0.39	12185	22.03
372	49	0.09	1923	3.48	417	107	0.19	5281	9.55	462	207	0.37	12392	22.40
373	40	0.07	1963	3.55	418	120	0.22	5401	9.76	463	216	0.39	12608	22.79
374	43	0.08	2006	3.63	419	103	0.19	5504	9.95	464	196	0.35	12804	23.15
375	52	0.09	2058	3.72	420	120	0.22	5624	10.17	465	235	0.42	13039	23.57
376	46	0.08	2104	3.80	421	134	0.24	5758	10.41	466	222	0.40	13261	23.97
377	57	0.10	2161	3.91	422	109	0.20	5867	10.61	467	236	0.43	13497	24.40
378	50	0.09	2211	4.00	423	109	0.20	5976	10.80	468	225	0.41	13722	24.81
379	51	0.09	2262	4.09	424	115	0.21	6091	11.01	469	243	0.44	13965	25.25
380	56	0.10	2318	4.19	425	109	0.20	6200	11.21	470	200	0.36	14165	25.61
381	52	0.09	2370	4.28	426	131	0.24	6331	11.45	471	232	0.42	14397	26.03
382	57	0.10	2427	4.39	427	128	0.23	6459	11.68	472	222	0.40	14619	26.43
383	61	0.11	2488	4.50	428	128	0.23	6587	11.91	473	213	0.39	14832	26.81
384	64	0.12	2552	4.61	429	126	0.23	6713	12.14	474	227	0.41	15059	27.22
385	66	0.12	2618	4.73	430	152	0.27	6865	12.41	475	218	0.39	15277	27.62
386	56	0.10	2674	4.83	431	156	0.28	7021	12.69	476	271	0.49	15548	28.11
387	63	0.11	2737	4.95	432	137	0.25	7158	12.94	477	233	0.42	15781	28.53
388	65	0.12	2802	5.07	433	173	0.31	7331	13.25	478	217	0.39	15998	28.92
389	76	0.14	2878	5.20	434	147	0.27	7478	13.52	479	250	0.45	16248	29.37
390	62	0.11	2940	5.32	435	153	0.28	7631	13.80	480	250	0.45	16498	29.83
391	54	0.10	2994	5.41	436	155	0.28	7786	14.08	481	276	0.50	16774	30.32
392	64	0.12	3058	5.53	437	150	0.27	7936	14.35	482	258	0.47	17032	30.79
393	80	0.14	3138	5.67	438	129	0.23	8065	14.58	483	259	0.47	17291	31.26
394	64	0.12	3202	5.79	439	166	0.30	8231	14.88	484	256	0.46	17547	31.72
395	67	0.12	3269	5.91	440	153	0.28	8384	15.16	485	258	0.47	17805	32.19
396	93	0.17	3362	6.08	441	168	0.30	8552	15.46	486	285	0.52	18090	32.70
397	80	0.14	3442	6.22	442	164	0.30	8716	15.76	487	272	0.49	18362	33.20
398	76	0.14	3518	6.36	443	170	0.31	8886	16.06	488	276	0.50	18638	33.69
399	70	0.13	3588	6.49	444	164	0.30	9050	16.36	489	273	0.49	18911	34.19
400	81	0.15	3669	6.63	445	157	0.28	9207	16.64	490	277	0.50	19188	34.69
401	82	0.15	3751	6.78	446	179	0.32	9386	16.97	491	291	0.53	19479	35.21
402	79	0.14	3830	6.92	447	165	0.30	9551	17.27	492	308	0.56	19787	35.77
403	70	0.13	3900	7.05	448	170	0.31	9721	17.57	493	270	0.49	20057	36.26
404	93	0.17	3993	7.22	449	192	0.35	9913	17.92	494	256	0.46	20313	36.72

Table A-11. Mathematics 5 Scale Score Distribution (Continued)

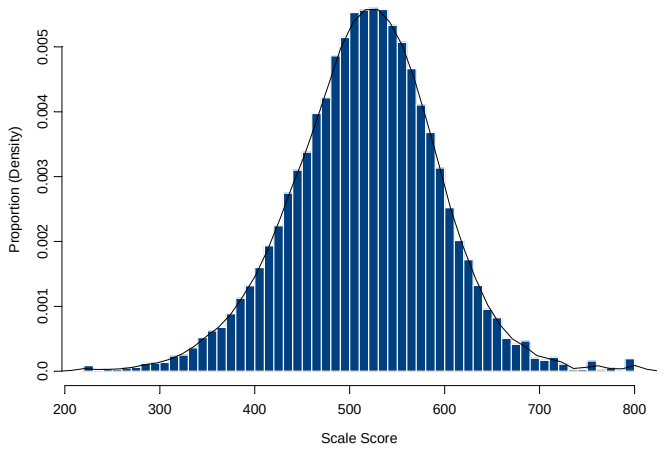
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
495	292	0.53	20605	37.25	540	255	0.46	34357	62.11	585	205	0.37	46016	83.19
496	283	0.51	20888	37.76	541	303	0.55	34660	62.66	586	222	0.40	46238	83.59
497	254	0.46	21142	38.22	542	308	0.56	34968	63.22	587	191	0.35	46429	83.94
498	320	0.58	21462	38.80	543	273	0.49	35241	63.71	588	190	0.34	46619	84.28
499	277	0.50	21739	39.30	544	292	0.53	35533	64.24	589	185	0.33	46804	84.61
500	295	0.53	22034	39.83	545	315	0.57	35848	64.81	590	197	0.36	47001	84.97
501	287	0.52	22321	40.35	546	278	0.50	36126	65.31	591	190	0.34	47191	85.31
502	330	0.60	22651	40.95	547	299	0.54	36425	65.85	592	198	0.36	47389	85.67
503	300	0.54	22951	41.49	548	271	0.49	36696	66.34	593	214	0.39	47603	86.06
504	287	0.52	23238	42.01	549	311	0.56	37007	66.90	594	165	0.30	47768	86.36
505	310	0.56	23548	42.57	550	301	0.54	37308	67.45	595	152	0.27	47920	86.63
506	309	0.56	23857	43.13	551	287	0.52	37595	67.97	596	158	0.29	48078	86.92
507	291	0.53	24148	43.66	552	300	0.54	37895	68.51	597	175	0.32	48253	87.23
508	345	0.62	24493	44.28	553	295	0.53	38190	69.04	598	166	0.30	48419	87.53
509	319	0.58	24812	44.86	554	293	0.53	38483	69.57	599	160	0.29	48579	87.82
510	282	0.51	25094	45.37	555	276	0.50	38759	70.07	600	155	0.28	48734	88.10
511	308	0.56	25402	45.92	556	276	0.50	39035	70.57	601	144	0.26	48878	88.36
512	299	0.54	25701	46.46	557	246	0.44	39281	71.01	602	145	0.26	49023	88.63
513	277	0.50	25978	46.96	558	295	0.53	39576	71.55	603	144	0.26	49167	88.89
514	311	0.56	26289	47.53	559	258	0.47	39834	72.01	604	137	0.25	49304	89.13
515	317	0.57	26606	48.10	560	280	0.51	40114	72.52	605	138	0.25	49442	89.38
516	322	0.58	26928	48.68	561	257	0.46	40371	72.98	606	148	0.27	49590	89.65
517	344	0.62	27272	49.30	562	251	0.45	40622	73.44	607	137	0.25	49727	89.90
518	268	0.48	27540	49.79	563	268	0.48	40890	73.92	608	145	0.26	49872	90.16
519	317	0.57	27857	50.36	564	259	0.47	41149	74.39	609	124	0.22	49996	90.38
520	318	0.57	28175	50.94	565	265	0.48	41414	74.87	610	133	0.24	50129	90.62
521	289	0.52	28464	51.46	566	242	0.44	41656	75.31	611	124	0.22	50253	90.85
522	318	0.57	28782	52.03	567	280	0.51	41936	75.81	612	116	0.21	50369	91.06
523	327	0.59	29109	52.62	568	243	0.44	42179	76.25	613	127	0.23	50496	91.29
524	318	0.57	29427	53.20	569	265	0.48	42444	76.73	614	107	0.19	50603	91.48
525	307	0.56	29734	53.75	570	250	0.45	42694	77.18	615	107	0.19	50710	91.67
526	302	0.55	30036	54.30	571	237	0.43	42931	77.61	616	121	0.22	50831	91.89
527	322	0.58	30358	54.88	572	228	0.41	43159	78.02	617	107	0.19	50938	92.09
528	335	0.61	30693	55.49	573	255	0.46	43414	78.49	618	112	0.20	51050	92.29
529	305	0.55	30998	56.04	574	253	0.46	43667	78.94	619	103	0.19	51153	92.48
530	274	0.50	31272	56.53	575	226	0.41	43893	79.35	620	91	0.16	51244	92.64
531	332	0.60	31604	57.13	576	202	0.37	44095	79.72	621	110	0.20	51354	92.84
532	298	0.54	31902	57.67	577	229	0.41	44324	80.13	622	112	0.20	51466	93.04
533	330	0.60	32232	58.27	578	227	0.41	44551	80.54	623	98	0.18	51564	93.22
534	312	0.56	32544	58.83	579	224	0.40	44775	80.95	624	85	0.15	51649	93.37
535	302	0.55	32846	59.38	580	189	0.34	44964	81.29	625	93	0.17	51742	93.54
536	305	0.55	33151	59.93	581	214	0.39	45178	81.67	626	79	0.14	51821	93.68
537	315	0.57	33466	60.50	582	210	0.38	45388	82.05	627	105	0.19	51926	93.87
538	321	0.58	33787	61.08	583	207	0.37	45595	82.43	628	93	0.17	52019	94.04
539	315	0.57	34102	61.65	584	216	0.39	45811	82.82	629	87	0.16	52106	94.20

Table A-11. Mathematics 5 Scale Score Distribution (Continued)

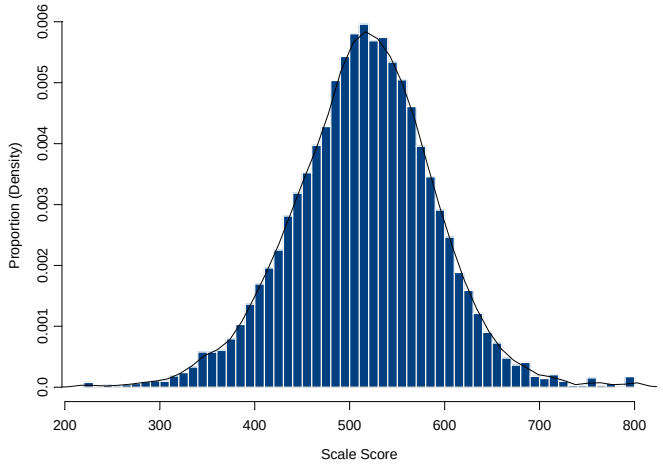
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
630	88	0.16	52194	94.36	668	28	0.05	54124	97.85	706	7	0.01	54819	99.10
631	89	0.16	52283	94.52	669	46	0.08	54170	97.93	707	2	0.00	54821	99.11
632	77	0.14	52360	94.66	670	20	0.04	54190	97.97	708	3	0.01	54824	99.11
633	78	0.14	52438	94.80	671	41	0.07	54231	98.04	709	13	0.02	54837	99.14
634	63	0.11	52501	94.91	672	30	0.05	54261	98.09	710	42	0.08	54879	99.21
635	82	0.15	52583	95.06	673	23	0.04	54284	98.14	711	16	0.03	54895	99.24
636	78	0.14	52661	95.20	674	35	0.06	54319	98.20	712	10	0.02	54905	99.26
637	69	0.12	52730	95.33	675	21	0.04	54340	98.24	713	3	0.01	54908	99.26
638	74	0.13	52804	95.46	676	28	0.05	54368	98.29	714	13	0.02	54921	99.29
639	65	0.12	52869	95.58	677	10	0.02	54378	98.31	715	9	0.02	54930	99.30
640	57	0.10	52926	95.68	678	17	0.03	54395	98.34	716	6	0.01	54936	99.31
641	53	0.10	52979	95.78	679	12	0.02	54407	98.36	717	35	0.06	54971	99.38
642	56	0.10	53035	95.88	680	12	0.02	54419	98.38	718	23	0.04	54994	99.42
643	46	0.08	53081	95.96	681	23	0.04	54442	98.42	719	1	0.00	54995	99.42
644	64	0.12	53145	96.08	682	10	0.02	54452	98.44	720	3	0.01	54998	99.43
645	65	0.12	53210	96.19	683	25	0.05	54477	98.49	721	32	0.06	55030	99.48
646	56	0.10	53266	96.30	684	31	0.06	54508	98.54	722	1	0.00	55031	99.49
647	53	0.10	53319	96.39	685	18	0.03	54526	98.57	723	6	0.01	55037	99.50
648	55	0.10	53374	96.49	686	17	0.03	54543	98.60	724	2	0.00	55039	99.50
649	42	0.08	53416	96.57	687	27	0.05	54570	98.65	725	13	0.02	55052	99.52
650	38	0.07	53454	96.64	688	46	0.08	54616	98.74	726	6	0.01	55058	99.54
651	37	0.07	53491	96.70	689	28	0.05	54644	98.79	731	9	0.02	55067	99.55
652	52	0.09	53543	96.80	690	33	0.06	54677	98.85	735	1	0.00	55068	99.55
653	38	0.07	53581	96.87	691	21	0.04	54698	98.88	737	2	0.00	55070	99.56
654	63	0.11	53644	96.98	692	18	0.03	54716	98.92	748	14	0.03	55084	99.58
655	48	0.09	53692	97.07	693	24	0.04	54740	98.96	751	2	0.00	55086	99.59
656	44	0.08	53736	97.15	694	6	0.01	54746	98.97	754	6	0.01	55092	99.60
657	50	0.09	53786	97.24	695	8	0.01	54754	98.99	756	11	0.02	55103	99.62
658	44	0.08	53830	97.32	696	15	0.03	54769	99.01	757	17	0.03	55120	99.65
659	53	0.10	53883	97.41	697	10	0.02	54779	99.03	758	37	0.07	55157	99.71
660	27	0.05	53910	97.46	698	5	0.01	54784	99.04	759	15	0.03	55172	99.74
661	36	0.07	53946	97.53	699	1	0.00	54785	99.04	766	5	0.01	55177	99.75
662	23	0.04	53969	97.57	700	2	0.00	54787	99.05	769	3	0.01	55180	99.76
663	20	0.04	53989	97.60	701	4	0.01	54791	99.05	770	2	0.00	55182	99.76
664	23	0.04	54012	97.64	702	1	0.00	54792	99.05	774	26	0.05	55208	99.81
665	19	0.03	54031	97.68	703	1	0.00	54793	99.06	800	107	0.19	55315	100.00
666	37	0.07	54068	97.75	704	4	0.01	54797	99.06					
667	28	0.05	54096	97.80	705	15	0.03	54812	99.09					

Figure A-11. Math 5 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Mathematics 5 Scale Score Distribution (Total)



2005 Mathematics 5 Scale Score Distribution (Female)



2005 Mathematics 5 Scale Score Distribution (Male)

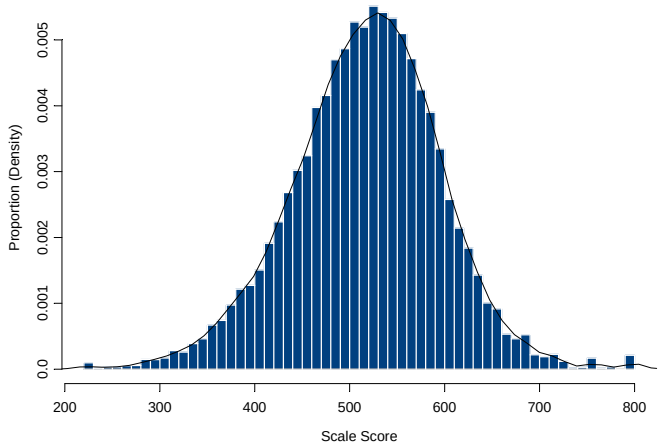


Table A-12. Reading 5 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
220	221	0.40	221	0.40	330	1	0.00	272	0.49	379	2	0.00	368	0.67
221	1	0.00	222	0.40	331	2	0.00	274	0.50	380	6	0.01	374	0.68
234	1	0.00	223	0.40	332	1	0.00	275	0.50	381	6	0.01	380	0.69
237	1	0.00	224	0.41	334	1	0.00	276	0.50	382	4	0.01	384	0.70
239	1	0.00	225	0.41	337	2	0.00	278	0.50	383	3	0.01	387	0.70
243	1	0.00	226	0.41	338	2	0.00	280	0.51	384	4	0.01	391	0.71
246	1	0.00	227	0.41	340	1	0.00	281	0.51	385	4	0.01	395	0.72
254	1	0.00	228	0.41	341	1	0.00	282	0.51	386	4	0.01	399	0.72
256	1	0.00	229	0.41	344	1	0.00	283	0.51	387	7	0.01	406	0.74
261	1	0.00	230	0.42	345	2	0.00	285	0.52	388	5	0.01	411	0.74
264	2	0.00	232	0.42	347	2	0.00	287	0.52	389	4	0.01	415	0.75
265	1	0.00	233	0.42	348	2	0.00	289	0.52	390	8	0.01	423	0.77
268	2	0.00	235	0.43	349	5	0.01	294	0.53	391	9	0.02	432	0.78
269	2	0.00	237	0.43	350	1	0.00	295	0.53	392	5	0.01	437	0.79
270	1	0.00	238	0.43	351	1	0.00	296	0.54	393	10	0.02	447	0.81
272	1	0.00	239	0.43	352	2	0.00	298	0.54	394	4	0.01	451	0.82
280	1	0.00	240	0.43	353	1	0.00	299	0.54	395	9	0.02	460	0.83
282	1	0.00	241	0.44	355	1	0.00	300	0.54	396	6	0.01	466	0.84
285	1	0.00	242	0.44	356	2	0.00	302	0.55	397	3	0.01	469	0.85
288	1	0.00	243	0.44	358	1	0.00	303	0.55	398	8	0.01	477	0.86
292	1	0.00	244	0.44	359	2	0.00	305	0.55	399	4	0.01	481	0.87
293	1	0.00	245	0.44	360	5	0.01	310	0.56	400	3	0.01	484	0.88
294	2	0.00	247	0.45	361	2	0.00	312	0.57	401	8	0.01	492	0.89
301	2	0.00	249	0.45	362	1	0.00	313	0.57	402	7	0.01	499	0.90
302	1	0.00	250	0.45	363	3	0.01	316	0.57	403	4	0.01	503	0.91
305	1	0.00	251	0.45	364	4	0.01	320	0.58	404	11	0.02	514	0.93
306	1	0.00	252	0.46	365	1	0.00	321	0.58	405	6	0.01	520	0.94
308	1	0.00	253	0.46	366	5	0.01	326	0.59	406	6	0.01	526	0.95
310	1	0.00	254	0.46	367	1	0.00	327	0.59	407	11	0.02	537	0.97
311	1	0.00	255	0.46	368	1	0.00	328	0.59	408	6	0.01	543	0.98
312	2	0.00	257	0.47	369	2	0.00	330	0.60	409	7	0.01	550	1.00
313	1	0.00	258	0.47	370	2	0.00	332	0.60	410	9	0.02	559	1.01
315	3	0.01	261	0.47	371	3	0.01	335	0.61	411	5	0.01	564	1.02
316	2	0.00	263	0.48	372	4	0.01	339	0.61	412	8	0.01	572	1.04
317	3	0.01	266	0.48	373	4	0.01	343	0.62	413	8	0.01	580	1.05
318	1	0.00	267	0.48	374	5	0.01	348	0.63	414	11	0.02	591	1.07
322	1	0.00	268	0.49	375	4	0.01	352	0.64	415	10	0.02	601	1.09
326	1	0.00	269	0.49	376	4	0.01	356	0.65	416	11	0.02	612	1.11
327	1	0.00	270	0.49	377	2	0.00	358	0.65	417	10	0.02	622	1.13
328	1	0.00	271	0.49	378	8	0.01	366	0.66	418	16	0.03	638	1.16

Table A-12. Reading 5 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
419	6	0.01	644	1.17	459	29	0.05	1393	2.52	499	58	0.11	3021	5.47
420	6	0.01	650	1.18	460	22	0.04	1415	2.56	500	59	0.11	3080	5.58
421	16	0.03	666	1.21	461	40	0.07	1455	2.64	501	56	0.10	3136	5.68
422	15	0.03	681	1.23	462	29	0.05	1484	2.69	502	60	0.11	3196	5.79
423	8	0.01	689	1.25	463	45	0.08	1529	2.77	503	47	0.09	3243	5.88
424	12	0.02	701	1.27	464	30	0.05	1559	2.83	504	64	0.12	3307	5.99
425	14	0.03	715	1.30	465	34	0.06	1593	2.89	505	77	0.14	3384	6.13
426	13	0.02	728	1.32	466	36	0.07	1629	2.95	506	64	0.12	3448	6.25
427	13	0.02	741	1.34	467	26	0.05	1655	3.00	507	75	0.14	3523	6.38
428	15	0.03	756	1.37	468	24	0.04	1679	3.04	508	74	0.13	3597	6.52
429	17	0.03	773	1.40	469	39	0.07	1718	3.11	509	65	0.12	3662	6.64
430	10	0.02	783	1.42	470	24	0.04	1742	3.16	510	77	0.14	3739	6.78
431	21	0.04	804	1.46	471	22	0.04	1764	3.20	511	65	0.12	3804	6.89
432	19	0.03	823	1.49	472	34	0.06	1798	3.26	512	69	0.13	3873	7.02
433	19	0.03	842	1.53	473	31	0.06	1829	3.31	513	75	0.14	3948	7.15
434	14	0.03	856	1.55	474	35	0.06	1864	3.38	514	90	0.16	4038	7.32
435	19	0.03	875	1.59	475	32	0.06	1896	3.44	515	80	0.14	4118	7.46
436	16	0.03	891	1.61	476	34	0.06	1930	3.50	516	82	0.15	4200	7.61
437	20	0.04	911	1.65	477	33	0.06	1963	3.56	517	79	0.14	4279	7.75
438	15	0.03	926	1.68	478	40	0.07	2003	3.63	518	95	0.17	4374	7.93
439	22	0.04	948	1.72	479	33	0.06	2036	3.69	519	79	0.14	4453	8.07
440	17	0.03	965	1.75	480	38	0.07	2074	3.76	520	101	0.18	4554	8.25
441	14	0.03	979	1.77	481	45	0.08	2119	3.84	521	81	0.15	4635	8.40
442	32	0.06	1011	1.83	482	42	0.08	2161	3.92	522	87	0.16	4722	8.56
443	18	0.03	1029	1.86	483	46	0.08	2207	4.00	523	103	0.19	4825	8.74
444	19	0.03	1048	1.90	484	51	0.09	2258	4.09	524	79	0.14	4904	8.89
445	24	0.04	1072	1.94	485	51	0.09	2309	4.18	525	95	0.17	4999	9.06
446	20	0.04	1092	1.98	486	34	0.06	2343	4.25	526	96	0.17	5095	9.23
447	21	0.04	1113	2.02	487	55	0.10	2398	4.35	527	106	0.19	5201	9.43
448	28	0.05	1141	2.07	488	55	0.10	2453	4.45	528	96	0.17	5297	9.60
449	21	0.04	1162	2.11	489	39	0.07	2492	4.52	529	116	0.21	5413	9.81
450	19	0.03	1181	2.14	490	54	0.10	2546	4.61	530	115	0.21	5528	10.02
451	15	0.03	1196	2.17	491	50	0.09	2596	4.70	531	96	0.17	5624	10.19
452	19	0.03	1215	2.20	492	62	0.11	2658	4.82	532	118	0.21	5742	10.41
453	27	0.05	1242	2.25	493	49	0.09	2707	4.91	533	110	0.20	5852	10.60
454	20	0.04	1262	2.29	494	39	0.07	2746	4.98	534	112	0.20	5964	10.81
455	20	0.04	1282	2.32	495	59	0.11	2805	5.08	535	136	0.25	6100	11.05
456	26	0.05	1308	2.37	496	54	0.10	2859	5.18	536	139	0.25	6239	11.31
457	26	0.05	1334	2.42	497	60	0.11	2919	5.29	537	127	0.23	6366	11.54
458	30	0.05	1364	2.47	498	44	0.08	2963	5.37	538	135	0.24	6501	11.78

Table A-12. Reading 5 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
539	125	0.23	6626	12.01	579	260	0.47	14550	26.37	619	344	0.62	27942	50.64
540	132	0.24	6758	12.25	580	264	0.48	14814	26.85	620	372	0.67	28314	51.31
541	139	0.25	6897	12.50	581	262	0.47	15076	27.32	621	389	0.70	28703	52.02
542	142	0.26	7039	12.76	582	290	0.53	15366	27.85	622	419	0.76	29122	52.77
543	142	0.26	7181	13.01	583	273	0.49	15639	28.34	623	421	0.76	29543	53.54
544	168	0.30	7349	13.32	584	312	0.57	15951	28.91	624	372	0.67	29915	54.21
545	130	0.24	7479	13.55	585	257	0.47	16208	29.37	625	377	0.68	30292	54.89
546	136	0.25	7615	13.80	586	306	0.55	16514	29.93	626	397	0.72	30689	55.61
547	130	0.24	7745	14.04	587	335	0.61	16849	30.53	627	399	0.72	31088	56.34
548	148	0.27	7893	14.30	588	288	0.52	17137	31.06	628	386	0.70	31474	57.04
549	167	0.30	8060	14.61	589	317	0.57	17454	31.63	629	379	0.69	31853	57.72
550	169	0.31	8229	14.91	590	314	0.57	17768	32.20	630	379	0.69	32232	58.41
551	161	0.29	8390	15.20	591	295	0.53	18063	32.73	631	408	0.74	32640	59.15
552	169	0.31	8559	15.51	592	300	0.54	18363	33.28	632	407	0.74	33047	59.89
553	169	0.31	8728	15.82	593	309	0.56	18672	33.84	633	431	0.78	33478	60.67
554	195	0.35	8923	16.17	594	338	0.61	19010	34.45	634	359	0.65	33837	61.32
555	199	0.36	9122	16.53	595	321	0.58	19331	35.03	635	386	0.70	34223	62.02
556	214	0.39	9336	16.92	596	324	0.59	19655	35.62	636	377	0.68	34600	62.70
557	180	0.33	9516	17.24	597	320	0.58	19975	36.20	637	375	0.68	34975	63.38
558	202	0.37	9718	17.61	598	334	0.61	20309	36.80	638	356	0.65	35331	64.03
559	196	0.36	9914	17.97	599	323	0.59	20632	37.39	639	355	0.64	35686	64.67
560	219	0.40	10133	18.36	600	351	0.64	20983	38.03	640	360	0.65	36046	65.32
561	193	0.35	10326	18.71	601	346	0.63	21329	38.65	641	402	0.73	36448	66.05
562	210	0.38	10536	19.09	602	370	0.67	21699	39.32	642	379	0.69	36827	66.74
563	198	0.36	10734	19.45	603	338	0.61	22037	39.94	643	366	0.66	37193	67.40
564	228	0.41	10962	19.87	604	344	0.62	22381	40.56	644	370	0.67	37563	68.07
565	219	0.40	11181	20.26	605	353	0.64	22734	41.20	645	352	0.64	37915	68.71
566	221	0.40	11402	20.66	606	354	0.64	23088	41.84	646	369	0.67	38284	69.38
567	218	0.40	11620	21.06	607	349	0.63	23437	42.47	647	344	0.62	38628	70.00
568	193	0.35	11813	21.41	608	383	0.69	23820	43.17	648	353	0.64	38981	70.64
569	242	0.44	12055	21.85	609	401	0.73	24221	43.89	649	319	0.58	39300	71.22
570	209	0.38	12264	22.22	610	366	0.66	24587	44.56	650	367	0.67	39667	71.88
571	247	0.45	12511	22.67	611	377	0.68	24964	45.24	651	335	0.61	40002	72.49
572	256	0.46	12767	23.14	612	389	0.70	25353	45.94	652	334	0.61	40336	73.10
573	221	0.40	12988	23.54	613	359	0.65	25712	46.59	653	342	0.62	40678	73.72
574	258	0.47	13246	24.00	614	387	0.70	26099	47.30	654	350	0.63	41028	74.35
575	248	0.45	13494	24.45	615	384	0.70	26483	47.99	655	343	0.62	41371	74.97
576	274	0.50	13768	24.95	616	334	0.61	26817	48.60	656	310	0.56	41681	75.53
577	263	0.48	14031	25.43	617	397	0.72	27214	49.32	657	341	0.62	42022	76.15
578	259	0.47	14290	25.90	618	384	0.70	27598	50.01	658	281	0.51	42303	76.66

Table A-12. Reading 5 Scale Score Distribution (Continued)

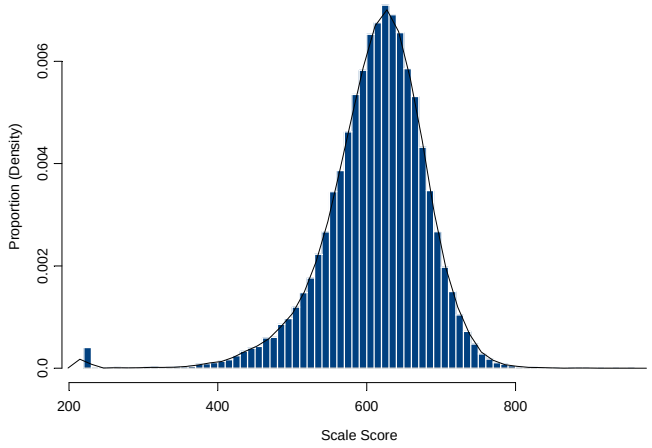
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
659	293	0.53	42596	77.19	699	129	0.23	51469	93.27	739	38	0.07	54453	98.68
660	304	0.55	42900	77.74	700	135	0.24	51604	93.52	740	39	0.07	54492	98.75
661	330	0.60	43230	78.34	701	124	0.22	51728	93.74	741	37	0.07	54529	98.82
662	287	0.52	43517	78.86	702	112	0.20	51840	93.94	742	29	0.05	54558	98.87
663	283	0.51	43800	79.37	703	146	0.26	51986	94.21	743	34	0.06	54592	98.93
664	314	0.57	44114	79.94	704	120	0.22	52106	94.43	744	29	0.05	54621	98.98
665	280	0.51	44394	80.45	705	121	0.22	52227	94.64	745	18	0.03	54639	99.02
666	275	0.50	44669	80.95	706	99	0.18	52326	94.82	746	27	0.05	54666	99.06
667	293	0.53	44962	81.48	707	105	0.19	52431	95.01	747	31	0.06	54697	99.12
668	298	0.54	45260	82.02	708	75	0.14	52506	95.15	748	15	0.03	54712	99.15
669	296	0.54	45556	82.56	709	102	0.18	52608	95.34	749	19	0.03	54731	99.18
670	275	0.50	45831	83.05	710	84	0.15	52692	95.49	750	22	0.04	54753	99.22
671	285	0.52	46116	83.57	711	87	0.16	52779	95.65	751	18	0.03	54771	99.26
672	219	0.40	46335	83.97	712	101	0.18	52880	95.83	752	16	0.03	54787	99.28
673	259	0.47	46594	84.44	713	82	0.15	52962	95.98	753	16	0.03	54803	99.31
674	217	0.39	46811	84.83	714	81	0.15	53043	96.12	754	17	0.03	54820	99.34
675	247	0.45	47058	85.28	715	90	0.16	53133	96.29	755	13	0.02	54833	99.37
676	241	0.44	47299	85.71	716	74	0.13	53207	96.42	756	13	0.02	54846	99.39
677	240	0.43	47539	86.15	717	88	0.16	53295	96.58	757	16	0.03	54862	99.42
678	229	0.41	47768	86.56	718	75	0.14	53370	96.72	758	18	0.03	54880	99.45
679	245	0.44	48013	87.01	719	71	0.13	53441	96.84	759	14	0.03	54894	99.48
680	203	0.37	48216	87.38	720	79	0.14	53520	96.99	760	12	0.02	54906	99.50
681	258	0.47	48474	87.84	721	56	0.10	53576	97.09	761	12	0.02	54918	99.52
682	215	0.39	48689	88.23	722	64	0.12	53640	97.21	762	12	0.02	54930	99.54
683	181	0.33	48870	88.56	723	60	0.11	53700	97.31	763	5	0.01	54935	99.55
684	189	0.34	49059	88.90	724	64	0.12	53764	97.43	764	13	0.02	54948	99.58
685	188	0.34	49247	89.24	725	49	0.09	53813	97.52	765	11	0.02	54959	99.60
686	187	0.34	49434	89.58	726	58	0.11	53871	97.62	766	8	0.01	54967	99.61
687	190	0.34	49624	89.93	727	60	0.11	53931	97.73	767	11	0.02	54978	99.63
688	173	0.31	49797	90.24	728	56	0.10	53987	97.83	768	11	0.02	54989	99.65
689	176	0.32	49973	90.56	729	48	0.09	54035	97.92	769	8	0.01	54997	99.66
690	159	0.29	50132	90.85	730	61	0.11	54096	98.03	770	8	0.01	55005	99.68
691	182	0.33	50314	91.18	731	55	0.10	54151	98.13	771	9	0.02	55014	99.70
692	165	0.30	50479	91.48	732	37	0.07	54188	98.20	772	11	0.02	55025	99.72
693	138	0.25	50617	91.73	733	50	0.09	54238	98.29	773	8	0.01	55033	99.73
694	148	0.27	50765	92.00	734	37	0.07	54275	98.36	774	6	0.01	55039	99.74
695	152	0.28	50917	92.27	735	37	0.07	54312	98.42	775	6	0.01	55045	99.75
696	146	0.26	51063	92.54	736	39	0.07	54351	98.49	776	7	0.01	55052	99.76
697	137	0.25	51200	92.78	737	29	0.05	54380	98.55	777	5	0.01	55057	99.77
698	140	0.25	51340	93.04	738	35	0.06	54415	98.61	778	5	0.01	55062	99.78

Table A-12. Reading 5 Scale Score Distribution (Continued)

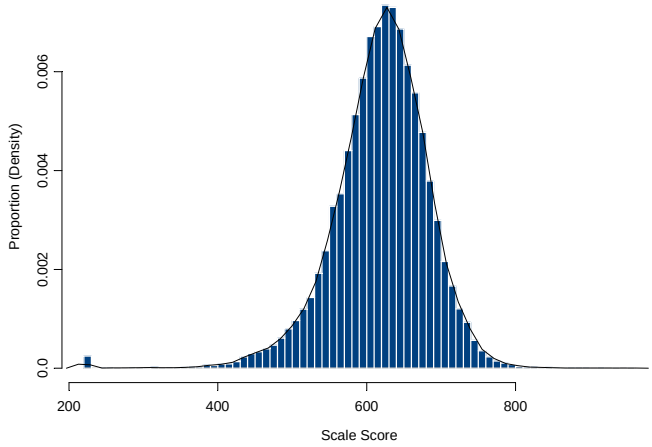
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
779	2	0.00	55064	99.79	842	1	0.00	55168	99.97					
780	1	0.00	55065	99.79	843	1	0.00	55169	99.98					
781	3	0.01	55068	99.79	844	2	0.00	55171	99.98					
782	7	0.01	55075	99.81	845	1	0.00	55172	99.98					
783	11	0.02	55086	99.83	852	1	0.00	55173	99.98					
784	7	0.01	55093	99.84	874	1	0.00	55174	99.99					
785	3	0.01	55096	99.84	883	1	0.00	55175	99.99					
786	2	0.00	55098	99.85	891	1	0.00	55176	99.99					
787	2	0.00	55100	99.85	892	1	0.00	55177	99.99					
789	5	0.01	55105	99.86	914	1	0.00	55178	99.99					
790	2	0.00	55107	99.86	933	1	0.00	55179	99.99					
791	1	0.00	55108	99.87	937	1	0.00	55180	100.00					
792	2	0.00	55110	99.87	955	2	0.00	55182	100.00					
794	5	0.01	55115	99.88										
795	4	0.01	55119	99.89										
796	2	0.00	55121	99.89										
797	3	0.01	55124	99.89										
798	3	0.01	55127	99.90										
799	3	0.01	55130	99.91										
800	4	0.01	55134	99.91										
801	1	0.00	55135	99.91										
803	3	0.01	55138	99.92										
804	1	0.00	55139	99.92										
806	1	0.00	55140	99.92										
807	2	0.00	55142	99.93										
809	1	0.00	55143	99.93										
810	3	0.01	55146	99.93										
811	3	0.01	55149	99.94										
812	1	0.00	55150	99.94										
814	2	0.00	55152	99.95										
815	2	0.00	55154	99.95										
816	1	0.00	55155	99.95										
819	1	0.00	55156	99.95										
821	1	0.00	55157	99.95										
825	2	0.00	55159	99.96										
826	1	0.00	55160	99.96										
828	1	0.00	55161	99.96										
829	2	0.00	55163	99.97										
834	1	0.00	55164	99.97										
835	3	0.01	55167	99.97										

Figure A-12. Reading 5 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 5 Scale Score Distribution (Total)



2005 Reading 5 Scale Score Distribution (Female)



2005 Reading 5 Scale Score Distribution (Male)

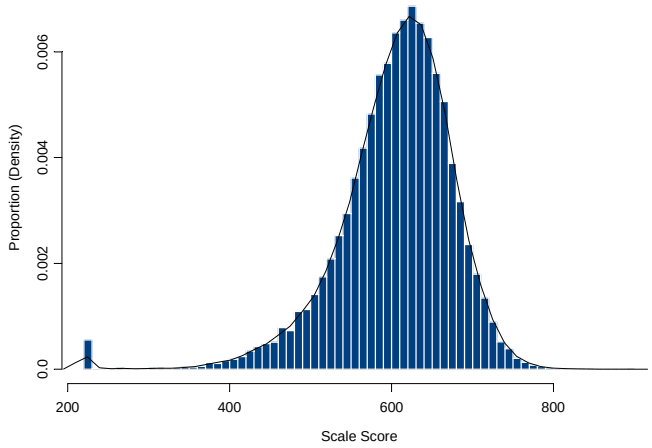


Table A-13. Writing 5 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
220	24	0.04	24	0.04	310	1	0.00	71	0.13	353	7	0.01	214	0.39
221	1	0.00	25	0.05	312	1	0.00	72	0.13	354	9	0.02	223	0.40
222	1	0.00	26	0.05	314	1	0.00	73	0.13	355	11	0.02	234	0.42
225	1	0.00	27	0.05	315	1	0.00	74	0.13	356	11	0.02	245	0.44
226	1	0.00	28	0.05	316	1	0.00	75	0.14	357	8	0.01	253	0.46
227	2	0.00	30	0.05	317	1	0.00	76	0.14	358	13	0.02	266	0.48
228	1	0.00	31	0.06	318	1	0.00	77	0.14	359	9	0.02	275	0.50
230	1	0.00	32	0.06	319	1	0.00	78	0.14	360	16	0.03	291	0.53
231	1	0.00	33	0.06	320	3	0.01	81	0.15	361	9	0.02	300	0.54
233	1	0.00	34	0.06	322	2	0.00	83	0.15	362	11	0.02	311	0.56
236	1	0.00	35	0.06	323	2	0.00	85	0.15	363	16	0.03	327	0.59
238	1	0.00	36	0.07	324	2	0.00	87	0.16	364	10	0.02	337	0.61
247	1	0.00	37	0.07	325	1	0.00	88	0.16	365	19	0.03	356	0.65
258	1	0.00	38	0.07	326	4	0.01	92	0.17	366	14	0.03	370	0.67
261	1	0.00	39	0.07	327	3	0.01	95	0.17	367	14	0.03	384	0.70
262	1	0.00	40	0.07	328	1	0.00	96	0.17	368	20	0.04	404	0.73
265	1	0.00	41	0.07	329	4	0.01	100	0.18	369	11	0.02	415	0.75
267	2	0.00	43	0.08	330	2	0.00	102	0.18	370	16	0.03	431	0.78
268	1	0.00	44	0.08	331	2	0.00	104	0.19	371	26	0.05	457	0.83
270	1	0.00	45	0.08	332	2	0.00	106	0.19	372	19	0.03	476	0.86
272	1	0.00	46	0.08	333	5	0.01	111	0.20	373	12	0.02	488	0.88
276	1	0.00	47	0.09	334	4	0.01	115	0.21	374	21	0.04	509	0.92
280	1	0.00	48	0.09	335	5	0.01	120	0.22	375	25	0.05	534	0.97
281	1	0.00	49	0.09	336	5	0.01	125	0.23	376	25	0.05	559	1.01
282	1	0.00	50	0.09	337	3	0.01	128	0.23	377	24	0.04	583	1.06
286	1	0.00	51	0.09	338	4	0.01	132	0.24	378	30	0.05	613	1.11
287	1	0.00	52	0.09	339	6	0.01	138	0.25	379	31	0.06	644	1.17
288	1	0.00	53	0.10	340	3	0.01	141	0.26	380	11	0.02	655	1.19
292	1	0.00	54	0.10	341	2	0.00	143	0.26	381	21	0.04	676	1.22
293	1	0.00	55	0.10	342	8	0.01	151	0.27	382	23	0.04	699	1.27
294	1	0.00	56	0.10	343	5	0.01	156	0.28	383	38	0.07	737	1.34
295	2	0.00	58	0.11	344	4	0.01	160	0.29	384	23	0.04	760	1.38
297	1	0.00	59	0.11	345	5	0.01	165	0.30	385	36	0.07	796	1.44
298	1	0.00	60	0.11	346	3	0.01	168	0.30	386	39	0.07	835	1.51
302	1	0.00	61	0.11	347	8	0.01	176	0.32	387	31	0.06	866	1.57
304	1	0.00	62	0.11	348	5	0.01	181	0.33	388	35	0.06	901	1.63
306	2	0.00	64	0.12	349	3	0.01	184	0.33	389	43	0.08	944	1.71
307	2	0.00	66	0.12	350	8	0.01	192	0.35	390	26	0.05	970	1.76
308	2	0.00	68	0.12	351	6	0.01	198	0.36	391	37	0.07	1007	1.82
309	2	0.00	70	0.13	352	9	0.02	207	0.38	392	42	0.08	1049	1.90

Table A-13. Writing 5 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
393	44	0.08	1093	1.98	433	129	0.23	4587	8.31	473	318	0.58	14049	25.46
394	33	0.06	1126	2.04	434	165	0.30	4752	8.61	474	299	0.54	14348	26.00
395	50	0.09	1176	2.13	435	130	0.24	4882	8.85	475	363	0.66	14711	26.65
396	54	0.10	1230	2.23	436	137	0.25	5019	9.09	476	350	0.63	15061	27.29
397	52	0.09	1282	2.32	437	161	0.29	5180	9.39	477	355	0.64	15416	27.93
398	56	0.10	1338	2.42	438	141	0.26	5321	9.64	478	362	0.66	15778	28.59
399	51	0.09	1389	2.52	439	186	0.34	5507	9.98	479	359	0.65	16137	29.24
400	61	0.11	1450	2.63	440	168	0.30	5675	10.28	480	365	0.66	16502	29.90
401	51	0.09	1501	2.72	441	175	0.32	5850	10.60	481	373	0.68	16875	30.58
402	56	0.10	1557	2.82	442	188	0.34	6038	10.94	482	360	0.65	17235	31.23
403	58	0.11	1615	2.93	443	167	0.30	6205	11.24	483	359	0.65	17594	31.88
404	65	0.12	1680	3.04	444	185	0.34	6390	11.58	484	379	0.69	17973	32.57
405	68	0.12	1748	3.17	445	198	0.36	6588	11.94	485	378	0.68	18351	33.25
406	49	0.09	1797	3.26	446	209	0.38	6797	12.32	486	355	0.64	18706	33.89
407	62	0.11	1859	3.37	447	207	0.38	7004	12.69	487	358	0.65	19064	34.54
408	81	0.15	1940	3.52	448	225	0.41	7229	13.10	488	384	0.70	19448	35.24
409	68	0.12	2008	3.64	449	208	0.38	7437	13.48	489	388	0.70	19836	35.94
410	92	0.17	2100	3.80	450	224	0.41	7661	13.88	490	421	0.76	20257	36.70
411	81	0.15	2181	3.95	451	245	0.44	7906	14.32	491	439	0.80	20696	37.50
412	73	0.13	2254	4.08	452	242	0.44	8148	14.76	492	413	0.75	21109	38.25
413	95	0.17	2349	4.26	453	238	0.43	8386	15.19	493	438	0.79	21547	39.04
414	84	0.15	2433	4.41	454	238	0.43	8624	15.63	494	420	0.76	21967	39.80
415	93	0.17	2526	4.58	455	226	0.41	8850	16.04	495	352	0.64	22319	40.44
416	87	0.16	2613	4.73	456	255	0.46	9105	16.50	496	421	0.76	22740	41.20
417	111	0.20	2724	4.94	457	252	0.46	9357	16.95	497	421	0.76	23161	41.97
418	82	0.15	2806	5.08	458	266	0.48	9623	17.44	498	441	0.80	23602	42.76
419	101	0.18	2907	5.27	459	259	0.47	9882	17.91	499	440	0.80	24042	43.56
420	102	0.18	3009	5.45	460	276	0.50	10158	18.41	500	434	0.79	24476	44.35
421	101	0.18	3110	5.63	461	263	0.48	10421	18.88	501	435	0.79	24911	45.14
422	116	0.21	3226	5.85	462	275	0.50	10696	19.38	502	459	0.83	25370	45.97
423	113	0.20	3339	6.05	463	286	0.52	10982	19.90	503	464	0.84	25834	46.81
424	118	0.21	3457	6.26	464	288	0.52	11270	20.42	504	406	0.74	26240	47.54
425	114	0.21	3571	6.47	465	305	0.55	11575	20.97	505	449	0.81	26689	48.36
426	125	0.23	3696	6.70	466	304	0.55	11879	21.52	506	501	0.91	27190	49.27
427	109	0.20	3805	6.89	467	301	0.55	12180	22.07	507	433	0.78	27623	50.05
428	121	0.22	3926	7.11	468	305	0.55	12485	22.62	508	466	0.84	28089	50.89
429	129	0.23	4055	7.35	469	296	0.54	12781	23.16	509	421	0.76	28510	51.66
430	139	0.25	4194	7.60	470	318	0.58	13099	23.73	510	456	0.83	28966	52.48
431	128	0.23	4322	7.83	471	331	0.60	13430	24.33	511	435	0.79	29401	53.27
432	136	0.25	4458	8.08	472	301	0.55	13731	24.88	512	443	0.80	29844	54.07

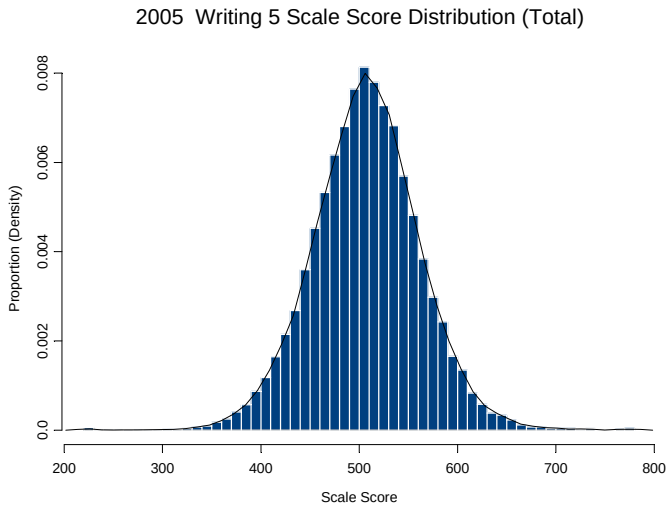
Table A-13. Writing 5 Scale Score Distribution (Continued)

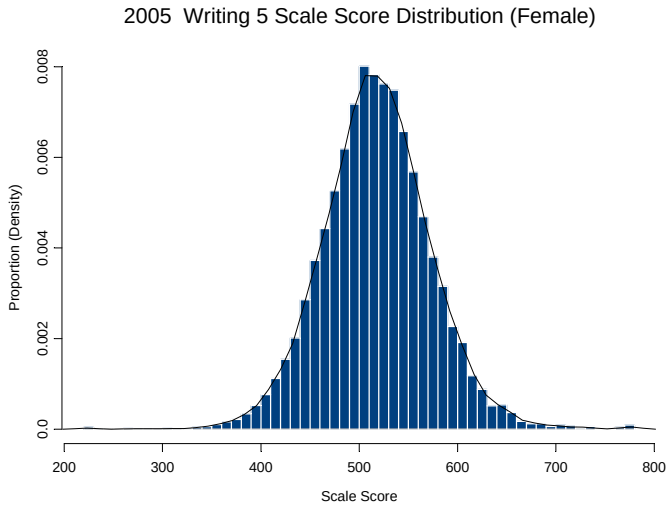
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
513	434	0.79	30278	54.86	553	269	0.49	45032	81.59	593	113	0.20	52252	94.67
514	426	0.77	30704	55.63	554	267	0.48	45299	82.08	594	118	0.21	52370	94.89
515	445	0.81	31149	56.44	555	276	0.50	45575	82.58	595	88	0.16	52458	95.05
516	428	0.78	31577	57.21	556	253	0.46	45828	83.04	596	90	0.16	52548	95.21
517	432	0.78	32009	58.00	557	252	0.46	46080	83.49	597	86	0.16	52634	95.37
518	421	0.76	32430	58.76	558	247	0.45	46327	83.94	598	77	0.14	52711	95.51
519	391	0.71	32821	59.47	559	268	0.49	46595	84.42	599	83	0.15	52794	95.66
520	447	0.81	33268	60.28	560	252	0.46	46847	84.88	600	67	0.12	52861	95.78
521	411	0.74	33679	61.02	561	241	0.44	47088	85.32	601	90	0.16	52951	95.94
522	409	0.74	34088	61.76	562	252	0.46	47340	85.77	602	83	0.15	53034	96.09
523	416	0.75	34504	62.52	563	214	0.39	47554	86.16	603	80	0.14	53114	96.24
524	415	0.75	34919	63.27	564	222	0.40	47776	86.56	604	75	0.14	53189	96.37
525	432	0.78	35351	64.05	565	176	0.32	47952	86.88	605	79	0.14	53268	96.52
526	390	0.71	35741	64.76	566	193	0.35	48145	87.23	606	72	0.13	53340	96.65
527	387	0.70	36128	65.46	567	231	0.42	48376	87.65	607	76	0.14	53416	96.78
528	385	0.70	36513	66.16	568	214	0.39	48590	88.04	608	65	0.12	53481	96.90
529	394	0.71	36907	66.87	569	183	0.33	48773	88.37	609	65	0.12	53546	97.02
530	375	0.68	37282	67.55	570	191	0.35	48964	88.72	610	58	0.11	53604	97.12
531	420	0.76	37702	68.31	571	202	0.37	49166	89.08	611	63	0.11	53667	97.24
532	411	0.74	38113	69.06	572	167	0.30	49333	89.39	612	49	0.09	53716	97.33
533	403	0.73	38516	69.79	573	174	0.32	49507	89.70	613	43	0.08	53759	97.41
534	382	0.69	38898	70.48	574	178	0.32	49685	90.02	614	52	0.09	53811	97.50
535	394	0.71	39292	71.19	575	161	0.29	49846	90.32	615	39	0.07	53850	97.57
536	347	0.63	39639	71.82	576	145	0.26	49991	90.58	616	40	0.07	53890	97.64
537	372	0.67	40011	72.50	577	163	0.30	50154	90.87	617	50	0.09	53940	97.73
538	357	0.65	40368	73.14	578	155	0.28	50309	91.15	618	42	0.08	53982	97.81
539	380	0.69	40748	73.83	579	158	0.29	50467	91.44	619	44	0.08	54026	97.89
540	299	0.54	41047	74.37	580	141	0.26	50608	91.70	620	38	0.07	54064	97.96
541	322	0.58	41369	74.96	581	159	0.29	50767	91.98	621	35	0.06	54099	98.02
542	310	0.56	41679	75.52	582	171	0.31	50938	92.29	622	34	0.06	54133	98.08
543	355	0.64	42034	76.16	583	140	0.25	51078	92.55	623	40	0.07	54173	98.16
544	309	0.56	42343	76.72	584	110	0.20	51188	92.75	624	38	0.07	54211	98.22
545	327	0.59	42670	77.31	585	139	0.25	51327	93.00	625	28	0.05	54239	98.28
546	310	0.56	42980	77.88	586	119	0.22	51446	93.21	626	42	0.08	54281	98.35
547	310	0.56	43290	78.44	587	131	0.24	51577	93.45	627	24	0.04	54305	98.39
548	322	0.58	43612	79.02	588	139	0.25	51716	93.70	628	24	0.04	54329	98.44
549	273	0.49	43885	79.51	589	116	0.21	51832	93.91	629	30	0.05	54359	98.49
550	305	0.55	44190	80.07	590	116	0.21	51948	94.12	630	25	0.05	54384	98.54
551	284	0.51	44474	80.58	591	91	0.16	52039	94.29	631	28	0.05	54412	98.59
552	289	0.52	44763	81.11	592	100	0.18	52139	94.47	632	29	0.05	54441	98.64

Table A-13. Writing 5 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
633	18	0.03	54459	98.67	673	5	0.01	54991	99.64					
634	17	0.03	54476	98.70	674	5	0.01	54996	99.65					
635	20	0.04	54496	98.74	676	1	0.00	54997	99.65					
636	24	0.04	54520	98.78	677	1	0.00	54998	99.65					
637	17	0.03	54537	98.82	678	2	0.00	55000	99.65					
638	18	0.03	54555	98.85	679	7	0.01	55007	99.67					
639	13	0.02	54568	98.87	680	9	0.02	55016	99.68					
640	28	0.05	54596	98.92	681	21	0.04	55037	99.72					
641	33	0.06	54629	98.98	682	2	0.00	55039	99.72					
642	22	0.04	54651	99.02	683	1	0.00	55040	99.73					
643	16	0.03	54667	99.05	684	3	0.01	55043	99.73					
644	25	0.05	54692	99.10	686	2	0.00	55045	99.74					
645	16	0.03	54708	99.12	687	3	0.01	55048	99.74					
646	22	0.04	54730	99.16	688	4	0.01	55052	99.75					
647	16	0.03	54746	99.19	689	4	0.01	55056	99.76					
648	10	0.02	54756	99.21	690	1	0.00	55057	99.76					
649	14	0.03	54770	99.24	692	11	0.02	55068	99.78					
650	13	0.02	54783	99.26	694	1	0.00	55069	99.78					
651	19	0.03	54802	99.30	695	1	0.00	55070	99.78					
652	15	0.03	54817	99.32	696	1	0.00	55071	99.78					
653	4	0.01	54821	99.33	698	1	0.00	55072	99.78					
654	17	0.03	54838	99.36	699	8	0.01	55080	99.80					
655	13	0.02	54851	99.38	701	4	0.01	55084	99.81					
656	15	0.03	54866	99.41	702	7	0.01	55091	99.82					
657	11	0.02	54877	99.43	703	12	0.02	55103	99.84					
658	14	0.03	54891	99.46	705	1	0.00	55104	99.84					
659	12	0.02	54903	99.48	710	1	0.00	55105	99.84					
660	7	0.01	54910	99.49	713	1	0.00	55106	99.85					
661	2	0.00	54912	99.49	717	4	0.01	55110	99.85					
662	6	0.01	54918	99.51	718	2	0.00	55112	99.86					
663	9	0.02	54927	99.52	720	16	0.03	55128	99.89					
664	9	0.02	54936	99.54	724	1	0.00	55129	99.89					
665	12	0.02	54948	99.56	726	2	0.00	55131	99.89					
666	3	0.01	54951	99.57	731	3	0.01	55134	99.90					
667	4	0.01	54955	99.57	732	2	0.00	55136	99.90					
668	4	0.01	54959	99.58	735	16	0.03	55152	99.93					
669	7	0.01	54966	99.59	763	8	0.01	55160	99.94					
670	9	0.02	54975	99.61	764	5	0.01	55165	99.95					
671	3	0.01	54978	99.61	780	26	0.05	55191	100.00					
672	8	0.01	54986	99.63										

Figure A-13. Writing 5 Scale Score Distributions for the Total Population, Female, and Male Students





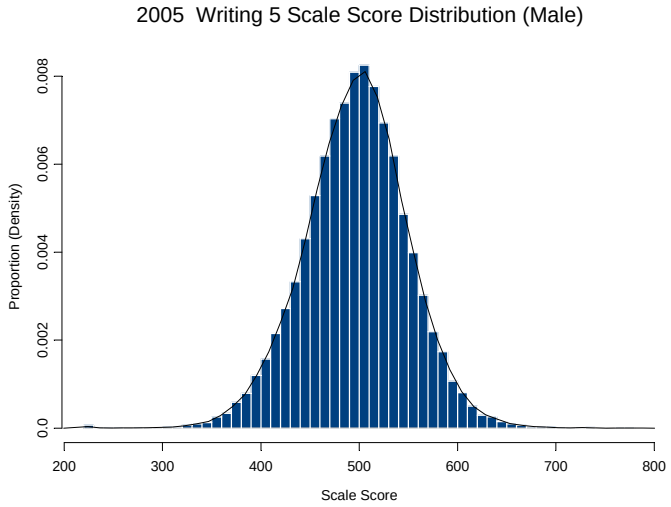


Table A-14. Math 6 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
240	72	0.13	72	0.13	289	5	0.01	179	0.32	329	8	0.01	478	0.85
241	2	0.00	74	0.13	290	8	0.01	187	0.33	330	9	0.02	487	0.87
243	2	0.00	76	0.14	291	2	0.00	189	0.34	331	7	0.01	494	0.88
244	4	0.01	80	0.14	292	5	0.01	194	0.34	332	7	0.01	501	0.89
245	1	0.00	81	0.14	293	3	0.01	197	0.35	333	13	0.02	514	0.91
246	2	0.00	83	0.15	294	7	0.01	204	0.36	334	17	0.03	531	0.94
247	2	0.00	85	0.15	295	6	0.01	210	0.37	335	11	0.02	542	0.96
248	1	0.00	86	0.15	296	4	0.01	214	0.38	336	6	0.01	548	0.97
249	3	0.01	89	0.16	297	6	0.01	220	0.39	337	14	0.02	562	1.00
250	2	0.00	91	0.16	298	7	0.01	227	0.40	338	10	0.02	572	1.02
251	1	0.00	92	0.16	299	8	0.01	235	0.42	339	9	0.02	581	1.03
254	2	0.00	94	0.17	300	7	0.01	242	0.43	340	11	0.02	592	1.05
256	1	0.00	95	0.17	301	8	0.01	250	0.44	341	20	0.04	612	1.09
257	1	0.00	96	0.17	302	5	0.01	255	0.45	342	15	0.03	627	1.11
258	3	0.01	99	0.18	303	6	0.01	261	0.46	343	12	0.02	639	1.14
260	2	0.00	101	0.18	304	7	0.01	268	0.48	344	14	0.02	653	1.16
261	2	0.00	103	0.18	305	7	0.01	275	0.49	345	13	0.02	666	1.18
263	3	0.01	106	0.19	306	7	0.01	282	0.50	346	13	0.02	679	1.21
264	4	0.01	110	0.20	307	6	0.01	288	0.51	347	17	0.03	696	1.24
265	2	0.00	112	0.20	308	5	0.01	293	0.52	348	18	0.03	714	1.27
267	3	0.01	115	0.20	309	2	0.00	295	0.52	349	19	0.03	733	1.30
268	1	0.00	116	0.21	310	12	0.02	307	0.55	350	18	0.03	751	1.33
269	2	0.00	118	0.21	311	7	0.01	314	0.56	351	7	0.01	758	1.35
271	4	0.01	122	0.22	312	7	0.01	321	0.57	352	22	0.04	780	1.39
272	6	0.01	128	0.23	313	4	0.01	325	0.58	353	22	0.04	802	1.42
273	2	0.00	130	0.23	314	12	0.02	337	0.60	354	24	0.04	826	1.47
274	2	0.00	132	0.23	315	14	0.02	351	0.62	355	13	0.02	839	1.49
275	2	0.00	134	0.24	316	9	0.02	360	0.64	356	19	0.03	858	1.52
276	1	0.00	135	0.24	317	13	0.02	373	0.66	357	26	0.05	884	1.57
277	3	0.01	138	0.25	318	8	0.01	381	0.68	358	18	0.03	902	1.60
278	1	0.00	139	0.25	319	7	0.01	388	0.69	359	25	0.04	927	1.65
279	6	0.01	145	0.26	320	6	0.01	394	0.70	360	22	0.04	949	1.69
280	4	0.01	149	0.26	321	11	0.02	405	0.72	361	26	0.05	975	1.73
281	1	0.00	150	0.27	322	12	0.02	417	0.74	362	34	0.06	1009	1.79
282	6	0.01	156	0.28	323	8	0.01	425	0.76	363	35	0.06	1044	1.85
283	5	0.01	161	0.29	324	7	0.01	432	0.77	364	27	0.05	1071	1.90
285	3	0.01	164	0.29	325	13	0.02	445	0.79	365	27	0.05	1098	1.95
286	6	0.01	170	0.30	326	9	0.02	454	0.81	366	31	0.06	1129	2.01
287	3	0.01	173	0.31	327	7	0.01	461	0.82	367	23	0.04	1152	2.05
288	1	0.00	174	0.31	328	9	0.02	470	0.84	368	17	0.03	1169	2.08

Table A-14. Math 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
369	33	0.06	1202	2.14	409	62	0.11	2942	5.23	449	137	0.24	7120	12.65
370	32	0.06	1234	2.19	410	78	0.14	3020	5.37	450	135	0.24	7255	12.89
371	35	0.06	1269	2.25	411	52	0.09	3072	5.46	451	164	0.29	7419	13.18
372	28	0.05	1297	2.30	412	76	0.14	3148	5.59	452	156	0.28	7575	13.46
373	29	0.05	1326	2.36	413	73	0.13	3221	5.72	453	190	0.34	7765	13.80
374	40	0.07	1366	2.43	414	81	0.14	3302	5.87	454	166	0.29	7931	14.09
375	30	0.05	1396	2.48	415	60	0.11	3362	5.97	455	169	0.30	8100	14.39
376	27	0.05	1423	2.53	416	80	0.14	3442	6.12	456	156	0.28	8256	14.67
377	35	0.06	1458	2.59	417	71	0.13	3513	6.24	457	196	0.35	8452	15.02
378	26	0.05	1484	2.64	418	83	0.15	3596	6.39	458	171	0.30	8623	15.32
379	31	0.06	1515	2.69	419	93	0.17	3689	6.55	459	172	0.31	8795	15.63
380	30	0.05	1545	2.74	420	84	0.15	3773	6.70	460	178	0.32	8973	15.94
381	34	0.06	1579	2.81	421	82	0.15	3855	6.85	461	198	0.35	9171	16.29
382	31	0.06	1610	2.86	422	88	0.16	3943	7.01	462	200	0.36	9371	16.65
383	34	0.06	1644	2.92	423	99	0.18	4042	7.18	463	172	0.31	9543	16.95
384	43	0.08	1687	3.00	424	103	0.18	4145	7.36	464	198	0.35	9741	17.31
385	50	0.09	1737	3.09	425	103	0.18	4248	7.55	465	175	0.31	9916	17.62
386	36	0.06	1773	3.15	426	101	0.18	4349	7.73	466	193	0.34	10109	17.96
387	36	0.06	1809	3.21	427	103	0.18	4452	7.91	467	197	0.35	10306	18.31
388	41	0.07	1850	3.29	428	99	0.18	4551	8.09	468	186	0.33	10492	18.64
389	31	0.06	1881	3.34	429	93	0.17	4644	8.25	469	227	0.40	10719	19.04
390	32	0.06	1913	3.40	430	118	0.21	4762	8.46	470	215	0.38	10934	19.43
391	38	0.07	1951	3.47	431	97	0.17	4859	8.63	471	205	0.36	11139	19.79
392	45	0.08	1996	3.55	432	109	0.19	4968	8.83	472	213	0.38	11352	20.17
393	46	0.08	2042	3.63	433	97	0.17	5065	9.00	473	223	0.40	11575	20.56
394	40	0.07	2082	3.70	434	113	0.20	5178	9.20	474	205	0.36	11780	20.93
395	44	0.08	2126	3.78	435	121	0.21	5299	9.41	475	232	0.41	12012	21.34
396	51	0.09	2177	3.87	436	124	0.22	5423	9.63	476	224	0.40	12236	21.74
397	39	0.07	2216	3.94	437	115	0.20	5538	9.84	477	238	0.42	12474	22.16
398	61	0.11	2277	4.05	438	129	0.23	5667	10.07	478	251	0.45	12725	22.61
399	53	0.09	2330	4.14	439	122	0.22	5789	10.28	479	245	0.44	12970	23.04
400	56	0.10	2386	4.24	440	108	0.19	5897	10.48	480	242	0.43	13212	23.47
401	46	0.08	2432	4.32	441	137	0.24	6034	10.72	481	267	0.47	13479	23.95
402	60	0.11	2492	4.43	442	126	0.22	6160	10.94	482	216	0.38	13695	24.33
403	70	0.12	2562	4.55	443	143	0.25	6303	11.20	483	220	0.39	13915	24.72
404	58	0.10	2620	4.65	444	119	0.21	6422	11.41	484	266	0.47	14181	25.19
405	54	0.10	2674	4.75	445	139	0.25	6561	11.66	485	273	0.49	14454	25.68
406	75	0.13	2749	4.88	446	143	0.25	6704	11.91	486	246	0.44	14700	26.12
407	69	0.12	2818	5.01	447	153	0.27	6857	12.18	487	254	0.45	14954	26.57
408	62	0.11	2880	5.12	448	126	0.22	6983	12.41	488	272	0.48	15226	27.05

Table A-14. Math 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
489	252	0.45	15478	27.50	529	338	0.60	27173	48.28	569	274	0.49	38894	69.10
490	243	0.43	15721	27.93	530	286	0.51	27459	48.78	570	258	0.46	39152	69.56
491	247	0.44	15968	28.37	531	302	0.54	27761	49.32	571	267	0.47	39419	70.03
492	263	0.47	16231	28.84	532	286	0.51	28047	49.83	572	267	0.47	39686	70.51
493	294	0.52	16525	29.36	533	319	0.57	28366	50.40	573	250	0.44	39936	70.95
494	262	0.47	16787	29.82	534	322	0.57	28688	50.97	574	246	0.44	40182	71.39
495	269	0.48	17056	30.30	535	294	0.52	28982	51.49	575	284	0.50	40466	71.89
496	255	0.45	17311	30.76	536	310	0.55	29292	52.04	576	246	0.44	40712	72.33
497	278	0.49	17589	31.25	537	286	0.51	29578	52.55	577	253	0.45	40965	72.78
498	272	0.48	17861	31.73	538	332	0.59	29910	53.14	578	229	0.41	41194	73.19
499	287	0.51	18148	32.24	539	288	0.51	30198	53.65	579	248	0.44	41442	73.63
500	277	0.49	18425	32.73	540	322	0.57	30520	54.22	580	229	0.41	41671	74.03
501	302	0.54	18727	33.27	541	303	0.54	30823	54.76	581	246	0.44	41917	74.47
502	304	0.54	19031	33.81	542	314	0.56	31137	55.32	582	250	0.44	42167	74.92
503	254	0.45	19285	34.26	543	312	0.55	31449	55.87	583	245	0.44	42412	75.35
504	310	0.55	19595	34.81	544	288	0.51	31737	56.39	584	236	0.42	42648	75.77
505	270	0.48	19865	35.29	545	284	0.50	32021	56.89	585	239	0.42	42887	76.19
506	305	0.54	20170	35.83	546	307	0.55	32328	57.44	586	244	0.43	43131	76.63
507	300	0.53	20470	36.37	547	274	0.49	32602	57.92	587	256	0.45	43387	77.08
508	281	0.50	20751	36.87	548	298	0.53	32900	58.45	588	234	0.42	43621	77.50
509	268	0.48	21019	37.34	549	299	0.53	33199	58.98	589	223	0.40	43844	77.90
510	309	0.55	21328	37.89	550	264	0.47	33463	59.45	590	234	0.42	44078	78.31
511	302	0.54	21630	38.43	551	300	0.53	33763	59.98	591	206	0.37	44284	78.68
512	310	0.55	21940	38.98	552	307	0.55	34070	60.53	592	224	0.40	44508	79.07
513	305	0.54	22245	39.52	553	287	0.51	34357	61.04	593	209	0.37	44717	79.45
514	329	0.58	22574	40.11	554	271	0.48	34628	61.52	594	217	0.39	44934	79.83
515	304	0.54	22878	40.65	555	284	0.50	34912	62.03	595	242	0.43	45176	80.26
516	301	0.53	23179	41.18	556	273	0.49	35185	62.51	596	218	0.39	45394	80.65
517	301	0.53	23480	41.72	557	309	0.55	35494	63.06	597	231	0.41	45625	81.06
518	289	0.51	23769	42.23	558	309	0.55	35803	63.61	598	213	0.38	45838	81.44
519	307	0.55	24076	42.77	559	302	0.54	36105	64.15	599	210	0.37	46048	81.81
520	317	0.56	24393	43.34	560	297	0.53	36402	64.67	600	181	0.32	46229	82.13
521	291	0.52	24684	43.85	561	287	0.51	36689	65.18	601	184	0.33	46413	82.46
522	308	0.55	24992	44.40	562	261	0.46	36950	65.65	602	208	0.37	46621	82.83
523	309	0.55	25301	44.95	563	277	0.49	37227	66.14	603	186	0.33	46807	83.16
524	338	0.60	25639	45.55	564	295	0.52	37522	66.66	604	201	0.36	47008	83.52
525	286	0.51	25925	46.06	565	274	0.49	37796	67.15	605	193	0.34	47201	83.86
526	292	0.52	26217	46.58	566	264	0.47	38060	67.62	606	167	0.30	47368	84.16
527	302	0.54	26519	47.11	567	261	0.46	38321	68.08	607	220	0.39	47588	84.55
528	316	0.56	26835	47.68	568	299	0.53	38620	68.61	608	168	0.30	47756	84.85

Table A-14. Math 6 Scale Score Distribution (Continued)

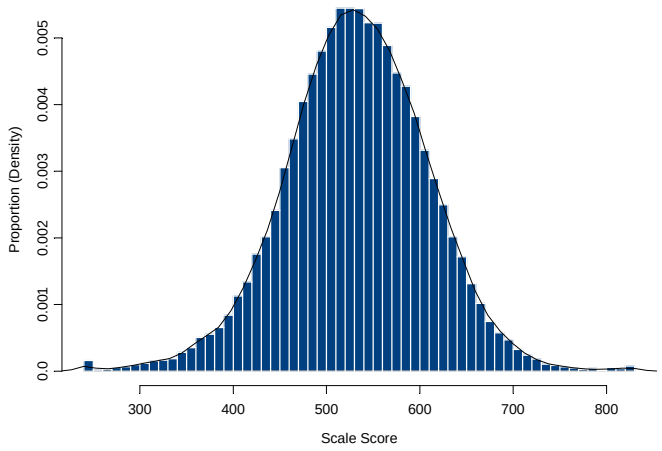
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
609	187	0.33	47943	85.18	649	87	0.15	53152	94.43	689	29	0.05	55267	98.19
610	153	0.27	48096	85.45	650	76	0.14	53228	94.57	690	18	0.03	55285	98.22
611	177	0.31	48273	85.76	651	83	0.15	53311	94.71	691	35	0.06	55320	98.28
612	158	0.28	48431	86.04	652	84	0.15	53395	94.86	692	24	0.04	55344	98.33
613	176	0.31	48607	86.36	653	79	0.14	53474	95.00	693	29	0.05	55373	98.38
614	177	0.31	48784	86.67	654	91	0.16	53565	95.17	694	33	0.06	55406	98.44
615	153	0.27	48937	86.94	655	76	0.14	53641	95.30	695	27	0.05	55433	98.48
616	143	0.25	49080	87.20	656	63	0.11	53704	95.41	696	31	0.06	55464	98.54
617	171	0.30	49251	87.50	657	70	0.12	53774	95.54	697	25	0.04	55489	98.58
618	152	0.27	49403	87.77	658	78	0.14	53852	95.68	698	27	0.05	55516	98.63
619	148	0.26	49551	88.03	659	56	0.10	53908	95.78	699	19	0.03	55535	98.67
620	171	0.30	49722	88.34	660	59	0.10	53967	95.88	700	15	0.03	55550	98.69
621	150	0.27	49872	88.60	661	64	0.11	54031	95.99	701	23	0.04	55573	98.73
622	141	0.25	50013	88.86	662	57	0.10	54088	96.09	702	26	0.05	55599	98.78
623	158	0.28	50171	89.14	663	53	0.09	54141	96.19	703	27	0.05	55626	98.83
624	136	0.24	50307	89.38	664	60	0.11	54201	96.30	704	17	0.03	55643	98.86
625	153	0.27	50460	89.65	665	67	0.12	54268	96.41	705	18	0.03	55661	98.89
626	143	0.25	50603	89.90	666	58	0.10	54326	96.52	706	19	0.03	55680	98.92
627	144	0.26	50747	90.16	667	59	0.10	54385	96.62	707	7	0.01	55687	98.94
628	134	0.24	50881	90.40	668	59	0.10	54444	96.73	708	15	0.03	55702	98.96
629	130	0.23	51011	90.63	669	56	0.10	54500	96.83	709	21	0.04	55723	99.00
630	116	0.21	51127	90.83	670	40	0.07	54540	96.90	710	11	0.02	55734	99.02
631	106	0.19	51233	91.02	671	35	0.06	54575	96.96	711	22	0.04	55756	99.06
632	115	0.20	51348	91.23	672	46	0.08	54621	97.04	712	17	0.03	55773	99.09
633	124	0.22	51472	91.45	673	40	0.07	54661	97.11	713	15	0.03	55788	99.12
634	126	0.22	51598	91.67	674	48	0.09	54709	97.20	714	13	0.02	55801	99.14
635	114	0.20	51712	91.87	675	50	0.09	54759	97.29	715	22	0.04	55823	99.18
636	118	0.21	51830	92.08	676	36	0.06	54795	97.35	716	9	0.02	55832	99.19
637	102	0.18	51932	92.26	677	46	0.08	54841	97.43	717	11	0.02	55843	99.21
638	103	0.18	52035	92.45	678	43	0.08	54884	97.51	718	6	0.01	55849	99.22
639	108	0.19	52143	92.64	679	40	0.07	54924	97.58	719	12	0.02	55861	99.24
640	119	0.21	52262	92.85	680	36	0.06	54960	97.64	720	9	0.02	55870	99.26
641	118	0.21	52380	93.06	681	40	0.07	55000	97.72	721	14	0.02	55884	99.29
642	104	0.18	52484	93.25	682	34	0.06	55034	97.78	722	11	0.02	55895	99.31
643	95	0.17	52579	93.41	683	32	0.06	55066	97.83	723	6	0.01	55901	99.32
644	99	0.18	52678	93.59	684	40	0.07	55106	97.90	724	10	0.02	55911	99.33
645	103	0.18	52781	93.77	685	37	0.07	55143	97.97	725	11	0.02	55922	99.35
646	95	0.17	52876	93.94	686	34	0.06	55177	98.03	726	13	0.02	55935	99.38
647	106	0.19	52982	94.13	687	29	0.05	55206	98.08	727	6	0.01	55941	99.39
648	83	0.15	53065	94.28	688	32	0.06	55238	98.14	728	12	0.02	55953	99.41

Table A-14. Math 6 Scale Score Distribution (Continued)

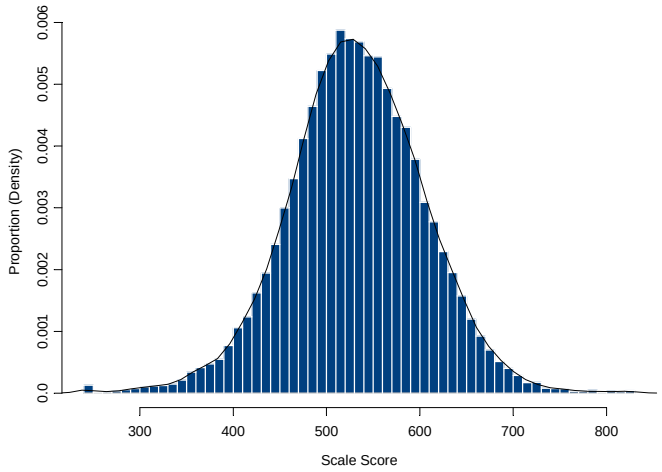
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
729	12	0.02	55965	99.43	769	1	0.00	56142	99.74					
730	7	0.01	55972	99.44	770	2	0.00	56144	99.75					
731	9	0.02	55981	99.46	771	4	0.01	56148	99.75					
732	7	0.01	55988	99.47	772	1	0.00	56149	99.76					
733	5	0.01	55993	99.48	773	2	0.00	56151	99.76					
734	5	0.01	55998	99.49	775	2	0.00	56153	99.76					
735	1	0.00	55999	99.49	776	1	0.00	56154	99.77					
736	8	0.01	56007	99.50	777	1	0.00	56155	99.77					
737	4	0.01	56011	99.51	778	2	0.00	56157	99.77					
738	6	0.01	56017	99.52	779	3	0.01	56160	99.78					
739	10	0.02	56027	99.54	780	1	0.00	56161	99.78					
740	5	0.01	56032	99.55	783	4	0.01	56165	99.79					
741	2	0.00	56034	99.55	784	1	0.00	56166	99.79					
742	5	0.01	56039	99.56	787	16	0.03	56182	99.82					
743	2	0.00	56041	99.56	789	3	0.01	56185	99.82					
744	5	0.01	56046	99.57	792	1	0.00	56186	99.82					
745	3	0.01	56049	99.58	796	1	0.00	56187	99.82					
746	9	0.02	56058	99.59	797	1	0.00	56188	99.83					
747	4	0.01	56062	99.60	798	1	0.00	56189	99.83					
748	2	0.00	56064	99.61	799	1	0.00	56190	99.83					
749	5	0.01	56069	99.61	801	6	0.01	56196	99.84					
750	12	0.02	56081	99.64	804	4	0.01	56200	99.85					
751	5	0.01	56086	99.64	808	2	0.00	56202	99.85					
752	1	0.00	56087	99.65	809	18	0.03	56220	99.88					
753	6	0.01	56093	99.66	810	1	0.00	56221	99.88					
754	1	0.00	56094	99.66	813	1	0.00	56222	99.89					
755	5	0.01	56099	99.67	814	5	0.01	56227	99.90					
756	2	0.00	56101	99.67	817	3	0.01	56230	99.90					
757	4	0.01	56105	99.68	818	1	0.00	56231	99.90					
758	5	0.01	56110	99.69	819	12	0.02	56243	99.92					
759	5	0.01	56115	99.70	821	2	0.00	56245	99.93					
760	3	0.01	56118	99.70	826	2	0.00	56247	99.93					
761	4	0.01	56122	99.71	830	39	0.07	56286	100.00					
762	1	0.00	56123	99.71										
763	1	0.00	56124	99.71										
764	1	0.00	56125	99.71										
765	11	0.02	56136	99.73										
766	2	0.00	56138	99.74										
767	1	0.00	56139	99.74										
768	2	0.00	56141	99.74										

Figure A-14. Math 6 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Mathematics 6 Scale Score Distribution (Total)



2005 Mathematics 6 Scale Score Distribution (Female)



2005 Mathematics 6 Scale Score Distribution (Male)

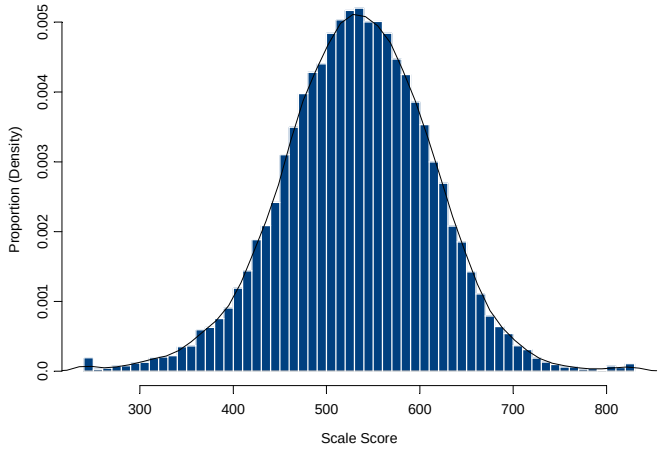


Table A-15. Reading 6 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
260	292	0.52	292	0.52	339	3	0.01	351	0.62	388	1	0.00	451	0.80
268	1	0.00	293	0.52	341	1	0.00	352	0.63	389	6	0.01	457	0.81
269	1	0.00	294	0.52	342	2	0.00	354	0.63	391	7	0.01	464	0.83
271	1	0.00	295	0.53	343	1	0.00	355	0.63	392	11	0.02	475	0.85
277	2	0.00	297	0.53	344	1	0.00	356	0.63	393	7	0.01	482	0.86
279	1	0.00	298	0.53	345	1	0.00	357	0.64	394	7	0.01	489	0.87
280	2	0.00	300	0.53	347	1	0.00	358	0.64	395	4	0.01	493	0.88
282	1	0.00	301	0.54	349	1	0.00	359	0.64	396	3	0.01	496	0.88
283	2	0.00	303	0.54	350	1	0.00	360	0.64	397	3	0.01	499	0.89
286	1	0.00	304	0.54	351	2	0.00	362	0.64	398	7	0.01	506	0.90
289	2	0.00	306	0.54	353	1	0.00	363	0.65	399	4	0.01	510	0.91
290	1	0.00	307	0.55	354	1	0.00	364	0.65	400	3	0.01	513	0.91
291	2	0.00	309	0.55	359	4	0.01	368	0.65	401	4	0.01	517	0.92
294	1	0.00	310	0.55	360	1	0.00	369	0.66	402	5	0.01	522	0.93
295	1	0.00	311	0.55	361	4	0.01	373	0.66	403	7	0.01	529	0.94
298	1	0.00	312	0.56	362	3	0.01	376	0.67	404	3	0.01	532	0.95
299	1	0.00	313	0.56	363	4	0.01	380	0.68	405	7	0.01	539	0.96
300	1	0.00	314	0.56	364	1	0.00	381	0.68	406	6	0.01	545	0.97
301	2	0.00	316	0.56	365	6	0.01	387	0.69	407	3	0.01	548	0.98
303	1	0.00	317	0.56	367	1	0.00	388	0.69	408	4	0.01	552	0.98
307	1	0.00	318	0.57	368	1	0.00	389	0.69	409	6	0.01	558	0.99
308	1	0.00	319	0.57	369	2	0.00	391	0.70	410	7	0.01	565	1.01
310	2	0.00	321	0.57	370	1	0.00	392	0.70	411	7	0.01	572	1.02
312	1	0.00	322	0.57	371	3	0.01	395	0.70	412	13	0.02	585	1.04
317	2	0.00	324	0.58	372	2	0.00	397	0.71	413	7	0.01	592	1.05
318	1	0.00	325	0.58	373	3	0.01	400	0.71	414	7	0.01	599	1.07
319	1	0.00	326	0.58	374	4	0.01	404	0.72	415	10	0.02	609	1.08
323	2	0.00	328	0.58	375	2	0.00	406	0.72	416	5	0.01	614	1.09
326	1	0.00	329	0.59	376	4	0.01	410	0.73	417	9	0.02	623	1.11
328	1	0.00	330	0.59	377	6	0.01	416	0.74	418	10	0.02	633	1.13
329	1	0.00	331	0.59	378	3	0.01	419	0.75	419	6	0.01	639	1.14
330	1	0.00	332	0.59	379	3	0.01	422	0.75	420	10	0.02	649	1.16
331	1	0.00	333	0.59	380	3	0.01	425	0.76	421	9	0.02	658	1.17
332	1	0.00	334	0.59	381	3	0.01	428	0.76	422	10	0.02	668	1.19
333	1	0.00	335	0.60	382	3	0.01	431	0.77	423	10	0.02	678	1.21
334	5	0.01	340	0.61	383	5	0.01	436	0.78	424	10	0.02	688	1.22
335	3	0.01	343	0.61	384	6	0.01	442	0.79	425	6	0.01	694	1.24
336	1	0.00	344	0.61	385	1	0.00	443	0.79	426	11	0.02	705	1.25
337	3	0.01	347	0.62	386	3	0.01	446	0.79	427	11	0.02	716	1.27
338	1	0.00	348	0.62	387	4	0.01	450	0.80	428	14	0.02	730	1.30

Table A-15. Reading 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
429	11	0.02	741	1.32	469	24	0.04	1490	2.65	509	61	0.11	3238	5.76
430	13	0.02	754	1.34	470	26	0.05	1516	2.70	510	66	0.12	3304	5.88
431	6	0.01	760	1.35	471	43	0.08	1559	2.77	511	75	0.13	3379	6.01
432	11	0.02	771	1.37	472	35	0.06	1594	2.84	512	77	0.14	3456	6.15
433	12	0.02	783	1.39	473	27	0.05	1621	2.89	513	66	0.12	3522	6.27
434	15	0.03	798	1.42	474	25	0.04	1646	2.93	514	75	0.13	3597	6.40
435	20	0.04	818	1.46	475	40	0.07	1686	3.00	515	89	0.16	3686	6.56
436	16	0.03	834	1.48	476	32	0.06	1718	3.06	516	63	0.11	3749	6.67
437	21	0.04	855	1.52	477	34	0.06	1752	3.12	517	73	0.13	3822	6.80
438	18	0.03	873	1.55	478	23	0.04	1775	3.16	518	86	0.15	3908	6.96
439	12	0.02	885	1.58	479	26	0.05	1801	3.21	519	84	0.15	3992	7.11
440	11	0.02	896	1.59	480	41	0.07	1842	3.28	520	74	0.13	4066	7.24
441	9	0.02	905	1.61	481	21	0.04	1863	3.32	521	98	0.17	4164	7.41
442	11	0.02	916	1.63	482	38	0.07	1901	3.38	522	75	0.13	4239	7.54
443	13	0.02	929	1.65	483	33	0.06	1934	3.44	523	92	0.16	4331	7.71
444	15	0.03	944	1.68	484	41	0.07	1975	3.52	524	89	0.16	4420	7.87
445	15	0.03	959	1.71	485	39	0.07	2014	3.58	525	95	0.17	4515	8.04
446	13	0.02	972	1.73	486	42	0.07	2056	3.66	526	80	0.14	4595	8.18
447	17	0.03	989	1.76	487	30	0.05	2086	3.71	527	90	0.16	4685	8.34
448	18	0.03	1007	1.79	488	47	0.08	2133	3.80	528	75	0.13	4760	8.47
449	25	0.04	1032	1.84	489	36	0.06	2169	3.86	529	99	0.18	4859	8.65
450	22	0.04	1054	1.88	490	49	0.09	2218	3.95	530	111	0.20	4970	8.85
451	19	0.03	1073	1.91	491	40	0.07	2258	4.02	531	105	0.19	5075	9.03
452	15	0.03	1088	1.94	492	46	0.08	2304	4.10	532	106	0.19	5181	9.22
453	21	0.04	1109	1.97	493	56	0.10	2360	4.20	533	104	0.19	5285	9.41
454	24	0.04	1133	2.02	494	45	0.08	2405	4.28	534	109	0.19	5394	9.60
455	17	0.03	1150	2.05	495	49	0.09	2454	4.37	535	120	0.21	5514	9.81
456	20	0.04	1170	2.08	496	45	0.08	2499	4.45	536	111	0.20	5625	10.01
457	19	0.03	1189	2.12	497	63	0.11	2562	4.56	537	90	0.16	5715	10.17
458	22	0.04	1211	2.16	498	47	0.08	2609	4.64	538	115	0.20	5830	10.38
459	21	0.04	1232	2.19	499	52	0.09	2661	4.74	539	106	0.19	5936	10.57
460	17	0.03	1249	2.22	500	48	0.09	2709	4.82	540	135	0.24	6071	10.81
461	24	0.04	1273	2.27	501	59	0.11	2768	4.93	541	114	0.20	6185	11.01
462	30	0.05	1303	2.32	502	53	0.09	2821	5.02	542	124	0.22	6309	11.23
463	18	0.03	1321	2.35	503	50	0.09	2871	5.11	543	143	0.25	6452	11.48
464	26	0.05	1347	2.40	504	58	0.10	2929	5.21	544	125	0.22	6577	11.71
465	27	0.05	1374	2.45	505	58	0.10	2987	5.32	545	126	0.22	6703	11.93
466	25	0.04	1399	2.49	506	74	0.13	3061	5.45	546	133	0.24	6836	12.17
467	33	0.06	1432	2.55	507	61	0.11	3122	5.56	547	138	0.25	6974	12.41
468	34	0.06	1466	2.61	508	55	0.10	3177	5.65	548	123	0.22	7097	12.63

Table A-15. Reading 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
549	134	0.24	7231	12.87	589	256	0.46	15100	26.88	629	341	0.61	27818	49.51
550	147	0.26	7378	13.13	590	281	0.50	15381	27.38	630	337	0.60	28155	50.11
551	128	0.23	7506	13.36	591	316	0.56	15697	27.94	631	364	0.65	28519	50.76
552	151	0.27	7657	13.63	592	289	0.51	15986	28.45	632	354	0.63	28873	51.39
553	164	0.29	7821	13.92	593	279	0.50	16265	28.95	633	399	0.71	29272	52.10
554	173	0.31	7994	14.23	594	273	0.49	16538	29.44	634	357	0.64	29629	52.74
555	168	0.30	8162	14.53	595	269	0.48	16807	29.91	635	342	0.61	29971	53.34
556	154	0.27	8316	14.80	596	252	0.45	17059	30.36	636	365	0.65	30336	53.99
557	167	0.30	8483	15.10	597	281	0.50	17340	30.86	637	381	0.68	30717	54.67
558	169	0.30	8652	15.40	598	296	0.53	17636	31.39	638	352	0.63	31069	55.30
559	182	0.32	8834	15.72	599	287	0.51	17923	31.90	639	348	0.62	31417	55.92
560	173	0.31	9007	16.03	600	305	0.54	18228	32.44	640	355	0.63	31772	56.55
561	164	0.29	9171	16.32	601	316	0.56	18544	33.01	641	354	0.63	32126	57.18
562	154	0.27	9325	16.60	602	291	0.52	18835	33.52	642	427	0.76	32553	57.94
563	167	0.30	9492	16.89	603	289	0.51	19124	34.04	643	383	0.68	32936	58.62
564	181	0.32	9673	17.22	604	304	0.54	19428	34.58	644	396	0.70	33332	59.33
565	190	0.34	9863	17.55	605	331	0.59	19759	35.17	645	396	0.70	33728	60.03
566	172	0.31	10035	17.86	606	313	0.56	20072	35.73	646	380	0.68	34108	60.71
567	171	0.30	10206	18.17	607	310	0.55	20382	36.28	647	370	0.66	34478	61.37
568	169	0.30	10375	18.47	608	292	0.52	20674	36.80	648	378	0.67	34856	62.04
569	217	0.39	10592	18.85	609	284	0.51	20958	37.30	649	405	0.72	35261	62.76
570	214	0.38	10806	19.23	610	313	0.56	21271	37.86	650	359	0.64	35620	63.40
571	185	0.33	10991	19.56	611	293	0.52	21564	38.38	651	338	0.60	35958	64.00
572	205	0.36	11196	19.93	612	324	0.58	21888	38.96	652	354	0.63	36312	64.63
573	192	0.34	11388	20.27	613	316	0.56	22204	39.52	653	369	0.66	36681	65.29
574	183	0.33	11571	20.59	614	322	0.57	22526	40.09	654	356	0.63	37037	65.92
575	224	0.40	11795	20.99	615	345	0.61	22871	40.71	655	394	0.70	37431	66.62
576	202	0.36	11997	21.35	616	353	0.63	23224	41.34	656	363	0.65	37794	67.27
577	227	0.40	12224	21.76	617	333	0.59	23557	41.93	657	361	0.64	38155	67.91
578	195	0.35	12419	22.10	618	368	0.65	23925	42.58	658	351	0.62	38506	68.54
579	252	0.45	12671	22.55	619	369	0.66	24294	43.24	659	377	0.67	38883	69.21
580	247	0.44	12918	22.99	620	344	0.61	24638	43.85	660	390	0.69	39273	69.90
581	248	0.44	13166	23.43	621	351	0.62	24989	44.48	661	353	0.63	39626	70.53
582	258	0.46	13424	23.89	622	351	0.62	25340	45.10	662	363	0.65	39989	71.18
583	247	0.44	13671	24.33	623	358	0.64	25698	45.74	663	354	0.63	40343	71.81
584	237	0.42	13908	24.75	624	370	0.66	26068	46.40	664	358	0.64	40701	72.44
585	241	0.43	14149	25.18	625	337	0.60	26405	47.00	665	363	0.65	41064	73.09
586	225	0.40	14374	25.58	626	342	0.61	26747	47.61	666	336	0.60	41400	73.69
587	244	0.43	14618	26.02	627	367	0.65	27114	48.26	667	333	0.59	41733	74.28
588	226	0.40	14844	26.42	628	363	0.65	27477	48.91	668	333	0.59	42066	74.87

Table A-15. Reading 6 Scale Score Distribution (Continued)

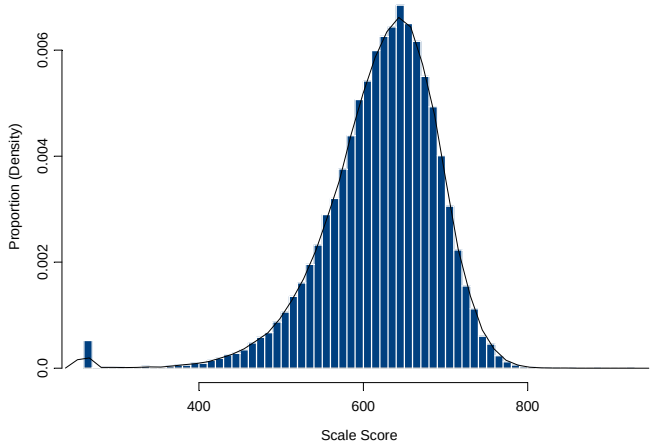
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
669	332	0.59	42398	75.46	709	153	0.27	52438	93.33	749	31	0.06	55637	99.03
670	340	0.61	42738	76.07	710	133	0.24	52571	93.57	750	25	0.04	55662	99.07
671	328	0.58	43066	76.65	711	150	0.27	52721	93.84	751	37	0.07	55699	99.14
672	299	0.53	43365	77.18	712	139	0.25	52860	94.08	752	28	0.05	55727	99.19
673	320	0.57	43685	77.75	713	141	0.25	53001	94.33	753	25	0.04	55752	99.23
674	323	0.57	44008	78.33	714	127	0.23	53128	94.56	754	23	0.04	55775	99.27
675	334	0.59	44342	78.92	715	128	0.23	53256	94.79	755	36	0.06	55811	99.34
676	287	0.51	44629	79.43	716	129	0.23	53385	95.02	756	28	0.05	55839	99.39
677	289	0.51	44918	79.95	717	116	0.21	53501	95.22	757	15	0.03	55854	99.41
678	313	0.56	45231	80.51	718	113	0.20	53614	95.43	758	25	0.04	55879	99.46
679	329	0.59	45560	81.09	719	103	0.18	53717	95.61	759	21	0.04	55900	99.49
680	270	0.48	45830	81.57	720	106	0.19	53823	95.80	760	18	0.03	55918	99.53
681	303	0.54	46133	82.11	721	115	0.20	53938	96.00	761	18	0.03	55936	99.56
682	275	0.49	46408	82.60	722	80	0.14	54018	96.14	762	17	0.03	55953	99.59
683	299	0.53	46707	83.13	723	84	0.15	54102	96.29	763	12	0.02	55965	99.61
684	276	0.49	46983	83.62	724	87	0.15	54189	96.45	764	16	0.03	55981	99.64
685	301	0.54	47284	84.16	725	76	0.14	54265	96.58	765	12	0.02	55993	99.66
686	272	0.48	47556	84.64	726	91	0.16	54356	96.75	766	13	0.02	56006	99.68
687	239	0.43	47795	85.07	727	89	0.16	54445	96.90	767	11	0.02	56017	99.70
688	272	0.48	48067	85.55	728	96	0.17	54541	97.08	768	4	0.01	56021	99.71
689	263	0.47	48330	86.02	729	74	0.13	54615	97.21	769	13	0.02	56034	99.73
690	271	0.48	48601	86.50	730	79	0.14	54694	97.35	770	16	0.03	56050	99.76
691	248	0.44	48849	86.94	731	79	0.14	54773	97.49	771	4	0.01	56054	99.77
692	239	0.43	49088	87.37	732	83	0.15	54856	97.64	772	5	0.01	56059	99.78
693	232	0.41	49320	87.78	733	65	0.12	54921	97.75	773	10	0.02	56069	99.80
694	272	0.48	49592	88.27	734	58	0.10	54979	97.86	774	9	0.02	56078	99.81
695	251	0.45	49843	88.71	735	62	0.11	55041	97.97	775	7	0.01	56085	99.82
696	216	0.38	50059	89.10	736	64	0.11	55105	98.08	776	7	0.01	56092	99.84
697	197	0.35	50256	89.45	737	56	0.10	55161	98.18	777	10	0.02	56102	99.85
698	211	0.38	50467	89.82	738	59	0.11	55220	98.28	778	4	0.01	56106	99.86
699	184	0.33	50651	90.15	739	57	0.10	55277	98.39	779	6	0.01	56112	99.87
700	202	0.36	50853	90.51	740	46	0.08	55323	98.47	780	5	0.01	56117	99.88
701	213	0.38	51066	90.89	741	45	0.08	55368	98.55	781	2	0.00	56119	99.88
702	190	0.34	51256	91.23	742	35	0.06	55403	98.61	782	5	0.01	56124	99.89
703	182	0.32	51438	91.55	743	44	0.08	55447	98.69	783	5	0.01	56129	99.90
704	158	0.28	51596	91.83	744	43	0.08	55490	98.76	784	2	0.00	56131	99.91
705	187	0.33	51783	92.17	745	29	0.05	55519	98.82	785	5	0.01	56136	99.91
706	177	0.32	51960	92.48	746	27	0.05	55546	98.86	786	6	0.01	56142	99.93
707	155	0.28	52115	92.76	747	34	0.06	55580	98.92	787	2	0.00	56144	99.93
708	170	0.30	52285	93.06	748	26	0.05	55606	98.97	789	5	0.01	56149	99.94

Table A-15. Reading 6 Scale Score Distribution (Continued)

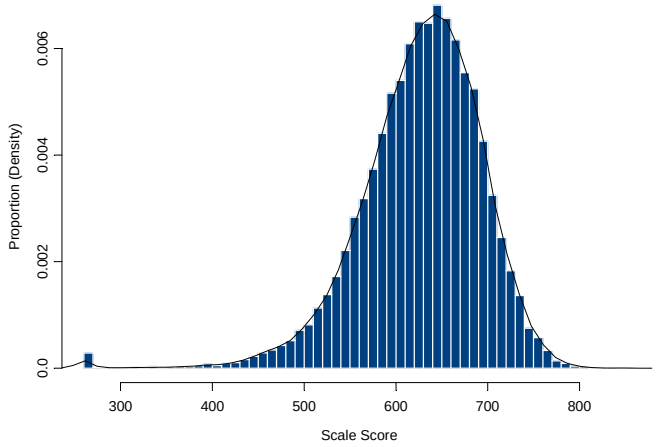
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
790	1	0.00	56150	99.94										
791	5	0.01	56155	99.95										
793	3	0.01	56158	99.95										
795	2	0.00	56160	99.96										
796	1	0.00	56161	99.96										
798	2	0.00	56163	99.96										
799	1	0.00	56164	99.96										
800	1	0.00	56165	99.97										
801	1	0.00	56166	99.97										
802	1	0.00	56167	99.97										
803	2	0.00	56169	99.97										
804	3	0.01	56172	99.98										
805	1	0.00	56173	99.98										
808	1	0.00	56174	99.98										
811	1	0.00	56175	99.98										
819	1	0.00	56176	99.99										
822	1	0.00	56177	99.99										
832	1	0.00	56178	99.99										
837	1	0.00	56179	99.99										
838	1	0.00	56180	99.99										
852	1	0.00	56181	99.99										
854	1	0.00	56182	100.00										
884	1	0.00	56183	100.00										
925	1	0.00	56184	100.00										

Figure A-15. Reading 6 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 6 Scale Score Distribution (Total)



2005 Reading 6 Scale Score Distribution (Female)



2005 Reading 6 Scale Score Distribution (Male)

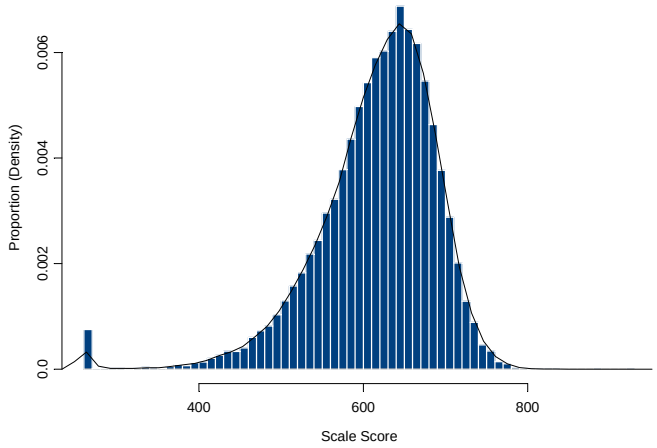


Table A-16. Writing 6 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
230	27	0.05	27	0.05	321	3	0.01	116	0.21	361	11	0.02	471	0.84
234	1	0.00	28	0.05	322	4	0.01	120	0.21	362	15	0.03	486	0.86
235	1	0.00	29	0.05	323	7	0.01	127	0.23	363	24	0.04	510	0.91
236	1	0.00	30	0.05	324	3	0.01	130	0.23	364	13	0.02	523	0.93
250	1	0.00	31	0.06	325	6	0.01	136	0.24	365	14	0.02	537	0.96
254	1	0.00	32	0.06	326	5	0.01	141	0.25	366	17	0.03	554	0.99
259	1	0.00	33	0.06	327	5	0.01	146	0.26	367	14	0.02	568	1.01
261	1	0.00	34	0.06	328	16	0.03	162	0.29	368	21	0.04	589	1.05
269	1	0.00	35	0.06	329	5	0.01	167	0.30	369	20	0.04	609	1.08
274	3	0.01	38	0.07	330	4	0.01	171	0.30	370	36	0.06	645	1.15
283	1	0.00	39	0.07	331	4	0.01	175	0.31	371	20	0.04	665	1.18
285	3	0.01	42	0.07	332	6	0.01	181	0.32	372	22	0.04	687	1.22
287	4	0.01	46	0.08	333	4	0.01	185	0.33	373	19	0.03	706	1.26
288	1	0.00	47	0.08	334	7	0.01	192	0.34	374	26	0.05	732	1.30
291	1	0.00	48	0.09	335	4	0.01	196	0.35	375	25	0.04	757	1.35
292	1	0.00	49	0.09	336	5	0.01	201	0.36	376	30	0.05	787	1.40
294	1	0.00	50	0.09	337	7	0.01	208	0.37	377	17	0.03	804	1.43
295	1	0.00	51	0.09	338	7	0.01	215	0.38	378	16	0.03	820	1.46
296	3	0.01	54	0.10	339	9	0.02	224	0.40	379	18	0.03	838	1.49
297	2	0.00	56	0.10	340	11	0.02	235	0.42	380	19	0.03	857	1.52
298	2	0.00	58	0.10	341	11	0.02	246	0.44	381	29	0.05	886	1.58
299	1	0.00	59	0.10	342	7	0.01	253	0.45	382	28	0.05	914	1.63
302	1	0.00	60	0.11	343	8	0.01	261	0.46	383	25	0.04	939	1.67
303	4	0.01	64	0.11	344	7	0.01	268	0.48	384	32	0.06	971	1.73
304	3	0.01	67	0.12	345	9	0.02	277	0.49	385	22	0.04	993	1.77
305	2	0.00	69	0.12	346	8	0.01	285	0.51	386	38	0.07	1031	1.83
307	2	0.00	71	0.13	347	10	0.02	295	0.52	387	33	0.06	1064	1.89
308	3	0.01	74	0.13	348	12	0.02	307	0.55	388	29	0.05	1093	1.94
309	6	0.01	80	0.14	349	11	0.02	318	0.57	389	35	0.06	1128	2.01
310	3	0.01	83	0.15	350	12	0.02	330	0.59	390	35	0.06	1163	2.07
311	4	0.01	87	0.15	351	10	0.02	340	0.60	391	38	0.07	1201	2.14
312	3	0.01	90	0.16	352	12	0.02	352	0.63	392	33	0.06	1234	2.20
313	3	0.01	93	0.17	353	13	0.02	365	0.65	393	31	0.06	1265	2.25
314	4	0.01	97	0.17	354	10	0.02	375	0.67	394	37	0.07	1302	2.32
315	4	0.01	101	0.18	355	14	0.02	389	0.69	395	44	0.08	1346	2.40
316	1	0.00	102	0.18	356	14	0.02	403	0.72	396	46	0.08	1392	2.48
317	4	0.01	106	0.19	357	10	0.02	413	0.73	397	42	0.07	1434	2.55
318	1	0.00	107	0.19	358	13	0.02	426	0.76	398	42	0.07	1476	2.63
319	5	0.01	112	0.20	359	17	0.03	443	0.79	399	38	0.07	1514	2.69
320	1	0.00	113	0.20	360	17	0.03	460	0.82	400	38	0.07	1552	2.76

Table A-16. Writing 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
401	43	0.08	1595	2.84	441	121	0.22	4802	8.54	481	260	0.46	12283	21.86
402	50	0.09	1645	2.93	442	117	0.21	4919	8.75	482	289	0.51	12572	22.37
403	50	0.09	1695	3.02	443	129	0.23	5048	8.98	483	252	0.45	12824	22.82
404	47	0.08	1742	3.10	444	135	0.24	5183	9.22	484	277	0.49	13101	23.31
405	38	0.07	1780	3.17	445	133	0.24	5316	9.46	485	288	0.51	13389	23.82
406	50	0.09	1830	3.26	446	158	0.28	5474	9.74	486	292	0.52	13681	24.34
407	53	0.09	1883	3.35	447	124	0.22	5598	9.96	487	294	0.52	13975	24.87
408	54	0.10	1937	3.45	448	148	0.26	5746	10.22	488	263	0.47	14238	25.33
409	55	0.10	1992	3.54	449	174	0.31	5920	10.53	489	297	0.53	14535	25.86
410	51	0.09	2043	3.64	450	153	0.27	6073	10.81	490	323	0.57	14858	26.44
411	64	0.11	2107	3.75	451	157	0.28	6230	11.09	491	279	0.50	15137	26.93
412	73	0.13	2180	3.88	452	135	0.24	6365	11.33	492	318	0.57	15455	27.50
413	64	0.11	2244	3.99	453	147	0.26	6512	11.59	493	320	0.57	15775	28.07
414	77	0.14	2321	4.13	454	158	0.28	6670	11.87	494	318	0.57	16093	28.64
415	71	0.13	2392	4.26	455	171	0.30	6841	12.17	495	302	0.54	16395	29.17
416	77	0.14	2469	4.39	456	151	0.27	6992	12.44	496	348	0.62	16743	29.79
417	75	0.13	2544	4.53	457	164	0.29	7156	12.73	497	310	0.55	17053	30.34
418	59	0.10	2603	4.63	458	172	0.31	7328	13.04	498	312	0.56	17365	30.90
419	64	0.11	2667	4.75	459	167	0.30	7495	13.34	499	314	0.56	17679	31.46
420	72	0.13	2739	4.87	460	186	0.33	7681	13.67	500	325	0.58	18004	32.04
421	86	0.15	2825	5.03	461	182	0.32	7863	13.99	501	324	0.58	18328	32.61
422	72	0.13	2897	5.15	462	179	0.32	8042	14.31	502	344	0.61	18672	33.22
423	67	0.12	2964	5.27	463	193	0.34	8235	14.65	503	332	0.59	19004	33.81
424	77	0.14	3041	5.41	464	207	0.37	8442	15.02	504	355	0.63	19359	34.45
425	95	0.17	3136	5.58	465	183	0.33	8625	15.35	505	346	0.62	19705	35.06
426	90	0.16	3226	5.74	466	201	0.36	8826	15.70	506	343	0.61	20048	35.67
427	94	0.17	3320	5.91	467	208	0.37	9034	16.07	507	376	0.67	20424	36.34
428	93	0.17	3413	6.07	468	192	0.34	9226	16.42	508	343	0.61	20767	36.95
429	101	0.18	3514	6.25	469	210	0.37	9436	16.79	509	369	0.66	21136	37.61
430	85	0.15	3599	6.40	470	208	0.37	9644	17.16	510	357	0.64	21493	38.24
431	97	0.17	3696	6.58	471	208	0.37	9852	17.53	511	344	0.61	21837	38.86
432	102	0.18	3798	6.76	472	229	0.41	10081	17.94	512	366	0.65	22203	39.51
433	116	0.21	3914	6.96	473	225	0.40	10306	18.34	513	330	0.59	22533	40.09
434	117	0.21	4031	7.17	474	231	0.41	10537	18.75	514	357	0.64	22890	40.73
435	106	0.19	4137	7.36	475	243	0.43	10780	19.18	515	387	0.69	23277	41.42
436	92	0.16	4229	7.52	476	254	0.45	11034	19.63	516	353	0.63	23630	42.05
437	118	0.21	4347	7.73	477	251	0.45	11285	20.08	517	388	0.69	24018	42.74
438	117	0.21	4464	7.94	478	233	0.41	11518	20.49	518	391	0.70	24409	43.43
439	106	0.19	4570	8.13	479	257	0.46	11775	20.95	519	390	0.69	24799	44.13
440	111	0.20	4681	8.33	480	248	0.44	12023	21.39	520	363	0.65	25162	44.77

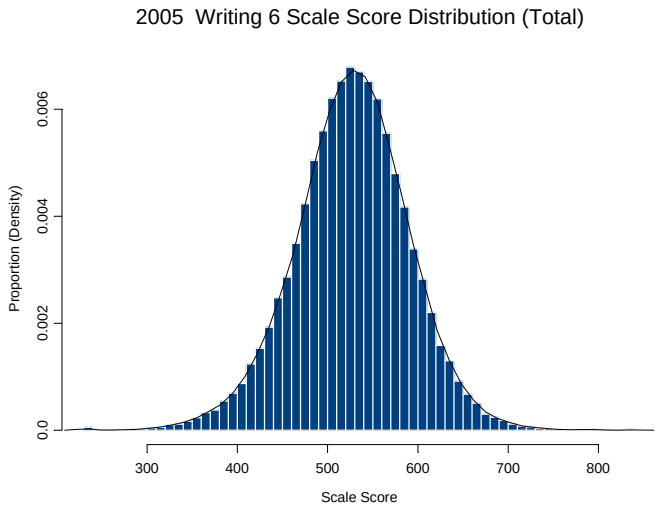
Table A-16. Writing 6 Scale Score Distribution (Continued)

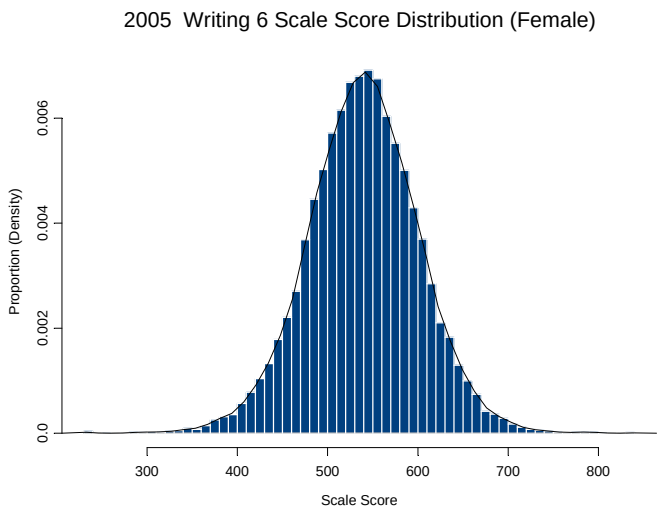
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
521	359	0.64	25521	45.41	561	312	0.56	40201	71.53	601	177	0.31	50133	89.20
522	364	0.65	25885	46.06	562	333	0.59	40534	72.12	602	153	0.27	50286	89.48
523	421	0.75	26306	46.81	563	355	0.63	40889	72.76	603	165	0.29	50451	89.77
524	366	0.65	26672	47.46	564	335	0.60	41224	73.35	604	173	0.31	50624	90.08
525	386	0.69	27058	48.15	565	307	0.55	41531	73.90	605	168	0.30	50792	90.38
526	379	0.67	27437	48.82	566	303	0.54	41834	74.44	606	148	0.26	50940	90.64
527	401	0.71	27838	49.53	567	291	0.52	42125	74.96	607	143	0.25	51083	90.90
528	417	0.74	28255	50.28	568	274	0.49	42399	75.44	608	153	0.27	51236	91.17
529	357	0.64	28612	50.91	569	331	0.59	42730	76.03	609	162	0.29	51398	91.46
530	365	0.65	28977	51.56	570	279	0.50	43009	76.53	610	144	0.26	51542	91.71
531	385	0.69	29362	52.25	571	279	0.50	43288	77.02	611	143	0.25	51685	91.97
532	343	0.61	29705	52.86	572	242	0.43	43530	77.46	612	137	0.24	51822	92.21
533	376	0.67	30081	53.52	573	279	0.50	43809	77.95	613	145	0.26	51967	92.47
534	381	0.68	30462	54.20	574	288	0.51	44097	78.46	614	130	0.23	52097	92.70
535	366	0.65	30828	54.85	575	246	0.44	44343	78.90	615	121	0.22	52218	92.91
536	394	0.70	31222	55.56	576	280	0.50	44623	79.40	616	118	0.21	52336	93.12
537	400	0.71	31622	56.27	577	294	0.52	44917	79.92	617	130	0.23	52466	93.36
538	372	0.66	31994	56.93	578	268	0.48	45185	80.40	618	112	0.20	52578	93.56
539	377	0.67	32371	57.60	579	264	0.47	45449	80.87	619	101	0.18	52679	93.73
540	371	0.66	32742	58.26	580	257	0.46	45706	81.33	620	101	0.18	52780	93.91
541	392	0.70	33134	58.96	581	250	0.44	45956	81.77	621	99	0.18	52879	94.09
542	347	0.62	33481	59.57	582	247	0.44	46203	82.21	622	105	0.19	52984	94.28
543	395	0.70	33876	60.28	583	271	0.48	46474	82.69	623	108	0.19	53092	94.47
544	350	0.62	34226	60.90	584	251	0.45	46725	83.14	624	84	0.15	53176	94.62
545	390	0.69	34616	61.59	585	236	0.42	46961	83.56	625	91	0.16	53267	94.78
546	391	0.70	35007	62.29	586	234	0.42	47195	83.98	626	75	0.13	53342	94.91
547	383	0.68	35390	62.97	587	201	0.36	47396	84.33	627	84	0.15	53426	95.06
548	359	0.64	35749	63.61	588	199	0.35	47595	84.69	628	91	0.16	53517	95.23
549	339	0.60	36088	64.21	589	227	0.40	47822	85.09	629	79	0.14	53596	95.37
550	319	0.57	36407	64.78	590	228	0.41	48050	85.50	630	76	0.14	53672	95.50
551	355	0.63	36762	65.41	591	210	0.37	48260	85.87	631	87	0.15	53759	95.66
552	380	0.68	37142	66.09	592	186	0.33	48446	86.20	632	97	0.17	53856	95.83
553	334	0.59	37476	66.68	593	194	0.35	48640	86.55	633	76	0.14	53932	95.96
554	340	0.60	37816	67.29	594	185	0.33	48825	86.88	634	72	0.13	54004	96.09
555	368	0.65	38184	67.94	595	189	0.34	49014	87.21	635	71	0.13	54075	96.22
556	319	0.57	38503	68.51	596	218	0.39	49232	87.60	636	66	0.12	54141	96.34
557	333	0.59	38836	69.10	597	212	0.38	49444	87.98	637	79	0.14	54220	96.48
558	389	0.69	39225	69.80	598	167	0.30	49611	88.28	638	62	0.11	54282	96.59
559	317	0.56	39542	70.36	599	178	0.32	49789	88.59	639	58	0.10	54340	96.69
560	347	0.62	39889	70.98	600	167	0.30	49956	88.89	640	61	0.11	54401	96.80

Table A-16. Writing 6 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
641	71	0.13	54472	96.93	682	22	0.04	55786	99.26	724	7	0.01	56109	99.84
642	56	0.10	54528	97.02	683	13	0.02	55799	99.29	726	6	0.01	56115	99.85
643	54	0.10	54582	97.12	684	11	0.02	55810	99.31	727	2	0.00	56117	99.85
644	56	0.10	54638	97.22	685	16	0.03	55826	99.33	728	1	0.00	56118	99.85
645	50	0.09	54688	97.31	686	13	0.02	55839	99.36	729	1	0.00	56119	99.86
646	53	0.09	54741	97.40	687	8	0.01	55847	99.37	730	5	0.01	56124	99.86
647	41	0.07	54782	97.48	688	17	0.03	55864	99.40	731	2	0.00	56126	99.87
648	45	0.08	54827	97.56	689	12	0.02	55876	99.42	732	4	0.01	56130	99.88
649	53	0.09	54880	97.65	690	8	0.01	55884	99.44	733	4	0.01	56134	99.88
650	37	0.07	54917	97.72	691	12	0.02	55896	99.46	734	4	0.01	56138	99.89
651	39	0.07	54956	97.79	692	9	0.02	55905	99.48	737	2	0.00	56140	99.89
652	46	0.08	55002	97.87	693	10	0.02	55915	99.49	739	4	0.01	56144	99.90
653	51	0.09	55053	97.96	694	6	0.01	55921	99.50	740	1	0.00	56145	99.90
654	43	0.08	55096	98.04	695	11	0.02	55932	99.52	742	5	0.01	56150	99.91
655	26	0.05	55122	98.08	696	23	0.04	55955	99.56	744	1	0.00	56151	99.91
656	42	0.07	55164	98.16	697	7	0.01	55962	99.58	745	5	0.01	56156	99.92
657	32	0.06	55196	98.21	698	7	0.01	55969	99.59	746	2	0.00	56158	99.93
658	42	0.07	55238	98.29	699	9	0.02	55978	99.60	748	1	0.00	56159	99.93
659	28	0.05	55266	98.34	700	8	0.01	55986	99.62	749	1	0.00	56160	99.93
660	29	0.05	55295	98.39	701	10	0.02	55996	99.64	750	1	0.00	56161	99.93
661	27	0.05	55322	98.44	702	5	0.01	56001	99.65	751	2	0.00	56163	99.93
662	33	0.06	55355	98.50	703	9	0.02	56010	99.66	752	1	0.00	56164	99.94
663	23	0.04	55378	98.54	704	11	0.02	56021	99.68	755	1	0.00	56165	99.94
664	33	0.06	55411	98.60	705	7	0.01	56028	99.69	757	1	0.00	56166	99.94
665	44	0.08	55455	98.67	706	7	0.01	56035	99.71	760	3	0.01	56169	99.94
666	23	0.04	55478	98.72	707	4	0.01	56039	99.71	762	1	0.00	56170	99.95
667	26	0.05	55504	98.76	708	4	0.01	56043	99.72	764	1	0.00	56171	99.95
668	31	0.06	55535	98.82	709	2	0.00	56045	99.72	768	1	0.00	56172	99.95
669	22	0.04	55557	98.86	710	5	0.01	56050	99.73	771	1	0.00	56173	99.95
670	22	0.04	55579	98.90	711	6	0.01	56056	99.74	773	1	0.00	56174	99.95
671	24	0.04	55603	98.94	712	3	0.01	56059	99.75	780	3	0.01	56177	99.96
672	23	0.04	55626	98.98	713	6	0.01	56065	99.76	782	2	0.00	56179	99.96
673	16	0.03	55642	99.01	714	3	0.01	56068	99.77	785	1	0.00	56180	99.96
674	21	0.04	55663	99.04	715	5	0.01	56073	99.77	786	1	0.00	56181	99.97
675	18	0.03	55681	99.08	716	4	0.01	56077	99.78	787	2	0.00	56183	99.97
676	12	0.02	55693	99.10	717	6	0.01	56083	99.79	791	3	0.01	56186	99.98
677	17	0.03	55710	99.13	718	5	0.01	56088	99.80	794	5	0.01	56191	99.98
678	11	0.02	55721	99.15	720	3	0.01	56091	99.81	800	1	0.00	56192	99.99
679	10	0.02	55731	99.17	721	1	0.00	56092	99.81	801	1	0.00	56193	99.99
680	17	0.03	55748	99.20	722	6	0.01	56098	99.82	840	7	0.01	56200	100.00
681	16	0.03	55764	99.22	723	4	0.01	56102	99.83					

Figure A-16. Writing 6 Scale Score Distributions for the Total Population, Female, and Male Students





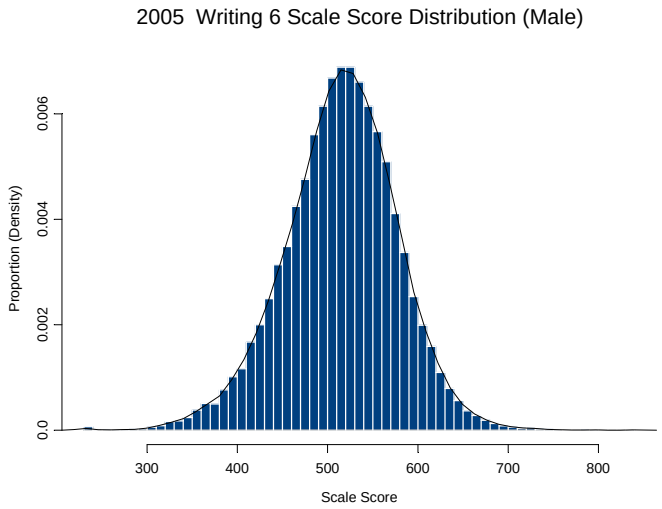


Table A-17. Math 7 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
280	140	0.24	140	0.24	324	7	0.01	289	0.50	364	12	0.02	632	1.10
282	2	0.00	142	0.25	325	7	0.01	296	0.52	365	17	0.03	649	1.13
285	5	0.01	147	0.26	326	8	0.01	304	0.53	366	11	0.02	660	1.15
286	1	0.00	148	0.26	327	3	0.01	307	0.54	367	8	0.01	668	1.16
287	5	0.01	153	0.27	328	7	0.01	314	0.55	368	14	0.02	682	1.19
288	7	0.01	160	0.28	329	8	0.01	322	0.56	369	13	0.02	695	1.21
289	4	0.01	164	0.29	330	10	0.02	332	0.58	370	16	0.03	711	1.24
290	4	0.01	168	0.29	331	5	0.01	337	0.59	371	15	0.03	726	1.27
291	1	0.00	169	0.29	332	7	0.01	344	0.60	372	15	0.03	741	1.29
292	1	0.00	170	0.30	333	7	0.01	351	0.61	373	16	0.03	757	1.32
293	2	0.00	172	0.30	334	6	0.01	357	0.62	374	18	0.03	775	1.35
294	5	0.01	177	0.31	335	4	0.01	361	0.63	375	18	0.03	793	1.38
295	3	0.01	180	0.31	336	7	0.01	368	0.64	376	11	0.02	804	1.40
296	5	0.01	185	0.32	337	9	0.02	377	0.66	377	17	0.03	821	1.43
297	2	0.00	187	0.33	338	6	0.01	383	0.67	378	15	0.03	836	1.46
298	3	0.01	190	0.33	339	8	0.01	391	0.68	379	28	0.05	864	1.51
299	4	0.01	194	0.34	340	2	0.00	393	0.69	380	14	0.02	878	1.53
300	1	0.00	195	0.34	341	10	0.02	403	0.70	381	19	0.03	897	1.56
301	6	0.01	201	0.35	342	6	0.01	409	0.71	382	26	0.05	923	1.61
302	2	0.00	203	0.35	343	7	0.01	416	0.73	383	15	0.03	938	1.64
303	1	0.00	204	0.36	344	7	0.01	423	0.74	384	22	0.04	960	1.67
304	3	0.01	207	0.36	345	14	0.02	437	0.76	385	24	0.04	984	1.72
305	3	0.01	210	0.37	346	7	0.01	444	0.77	386	26	0.05	1010	1.76
306	2	0.00	212	0.37	347	10	0.02	454	0.79	387	16	0.03	1026	1.79
308	6	0.01	218	0.38	348	7	0.01	461	0.80	388	20	0.03	1046	1.82
309	1	0.00	219	0.38	349	9	0.02	470	0.82	389	29	0.05	1075	1.87
310	7	0.01	226	0.39	350	8	0.01	478	0.83	390	23	0.04	1098	1.91
311	4	0.01	230	0.40	351	8	0.01	486	0.85	391	29	0.05	1127	1.96
312	3	0.01	233	0.41	352	4	0.01	490	0.85	392	20	0.03	1147	2.00
313	2	0.00	235	0.41	353	11	0.02	501	0.87	393	25	0.04	1172	2.04
314	5	0.01	240	0.42	354	10	0.02	511	0.89	394	27	0.05	1199	2.09
315	3	0.01	243	0.42	355	7	0.01	518	0.90	395	20	0.03	1219	2.13
316	4	0.01	247	0.43	356	6	0.01	524	0.91	396	18	0.03	1237	2.16
317	7	0.01	254	0.44	357	10	0.02	534	0.93	397	22	0.04	1259	2.20
318	3	0.01	257	0.45	358	20	0.03	554	0.97	398	29	0.05	1288	2.25
319	2	0.00	259	0.45	359	9	0.02	563	0.98	399	22	0.04	1310	2.28
320	8	0.01	267	0.47	360	15	0.03	578	1.01	400	42	0.07	1352	2.36
321	3	0.01	270	0.47	361	12	0.02	590	1.03	401	29	0.05	1381	2.41
322	7	0.01	277	0.48	362	13	0.02	603	1.05	402	26	0.05	1407	2.45
323	5	0.01	282	0.49	363	17	0.03	620	1.08	403	39	0.07	1446	2.52

Table A-17. Math 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
404	34	0.06	1480	2.58	444	90	0.16	3690	6.43	484	208	0.36	9212	16.06
405	25	0.04	1505	2.62	445	88	0.15	3778	6.59	485	190	0.33	9402	16.39
406	41	0.07	1546	2.70	446	83	0.14	3861	6.73	486	226	0.39	9628	16.79
407	48	0.08	1594	2.78	447	90	0.16	3951	6.89	487	212	0.37	9840	17.16
408	40	0.07	1634	2.85	448	106	0.18	4057	7.07	488	233	0.41	10073	17.56
409	24	0.04	1658	2.89	449	111	0.19	4168	7.27	489	185	0.32	10258	17.88
410	35	0.06	1693	2.95	450	100	0.17	4268	7.44	490	220	0.38	10478	18.27
411	32	0.06	1725	3.01	451	100	0.17	4368	7.62	491	206	0.36	10684	18.63
412	34	0.06	1759	3.07	452	102	0.18	4470	7.79	492	220	0.38	10904	19.01
413	45	0.08	1804	3.15	453	92	0.16	4562	7.95	493	195	0.34	11099	19.35
414	40	0.07	1844	3.22	454	98	0.17	4660	8.12	494	223	0.39	11322	19.74
415	35	0.06	1879	3.28	455	107	0.19	4767	8.31	495	211	0.37	11533	20.11
416	32	0.06	1911	3.33	456	117	0.20	4884	8.52	496	253	0.44	11786	20.55
417	50	0.09	1961	3.42	457	112	0.20	4996	8.71	497	232	0.40	12018	20.95
418	53	0.09	2014	3.51	458	109	0.19	5105	8.90	498	254	0.44	12272	21.40
419	39	0.07	2053	3.58	459	114	0.20	5219	9.10	499	245	0.43	12517	21.82
420	51	0.09	2104	3.67	460	132	0.23	5351	9.33	500	253	0.44	12770	22.26
421	58	0.10	2162	3.77	461	153	0.27	5504	9.60	501	245	0.43	13015	22.69
422	63	0.11	2225	3.88	462	126	0.22	5630	9.82	502	259	0.45	13274	23.14
423	59	0.10	2284	3.98	463	143	0.25	5773	10.07	503	261	0.46	13535	23.60
424	63	0.11	2347	4.09	464	140	0.24	5913	10.31	504	248	0.43	13783	24.03
425	55	0.10	2402	4.19	465	125	0.22	6038	10.53	505	246	0.43	14029	24.46
426	48	0.08	2450	4.27	466	147	0.26	6185	10.78	506	274	0.48	14303	24.94
427	59	0.10	2509	4.37	467	146	0.25	6331	11.04	507	252	0.44	14555	25.38
428	49	0.09	2558	4.46	468	129	0.22	6460	11.26	508	276	0.48	14831	25.86
429	75	0.13	2633	4.59	469	137	0.24	6597	11.50	509	287	0.50	15118	26.36
430	64	0.11	2697	4.70	470	154	0.27	6751	11.77	510	272	0.47	15390	26.83
431	52	0.09	2749	4.79	471	191	0.33	6942	12.10	511	254	0.44	15644	27.28
432	74	0.13	2823	4.92	472	176	0.31	7118	12.41	512	302	0.53	15946	27.80
433	69	0.12	2892	5.04	473	145	0.25	7263	12.66	513	295	0.51	16241	28.32
434	71	0.12	2963	5.17	474	152	0.27	7415	12.93	514	294	0.51	16535	28.83
435	62	0.11	3025	5.27	475	172	0.30	7587	13.23	515	284	0.50	16819	29.32
436	64	0.11	3089	5.39	476	185	0.32	7772	13.55	516	305	0.53	17124	29.86
437	73	0.13	3162	5.51	477	175	0.31	7947	13.86	517	287	0.50	17411	30.36
438	68	0.12	3230	5.63	478	153	0.27	8100	14.12	518	288	0.50	17699	30.86
439	74	0.13	3304	5.76	479	173	0.30	8273	14.42	519	308	0.54	18007	31.40
440	77	0.13	3381	5.89	480	188	0.33	8461	14.75	520	293	0.51	18300	31.91
441	72	0.13	3453	6.02	481	170	0.30	8631	15.05	521	261	0.46	18561	32.36
442	73	0.13	3526	6.15	482	196	0.34	8827	15.39	522	306	0.53	18867	32.89
443	74	0.13	3600	6.28	483	177	0.31	9004	15.70	523	307	0.54	19174	33.43

Table A-17. Math 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
524	326	0.57	19500	34.00	564	349	0.61	32645	56.92	604	260	0.45	44733	77.99
525	302	0.53	19802	34.52	565	346	0.60	32991	57.52	605	273	0.48	45006	78.47
526	318	0.55	20120	35.08	566	308	0.54	33299	58.06	606	258	0.45	45264	78.92
527	353	0.62	20473	35.69	567	312	0.54	33611	58.60	607	258	0.45	45522	79.37
528	283	0.49	20756	36.19	568	331	0.58	33942	59.18	608	246	0.43	45768	79.80
529	305	0.53	21061	36.72	569	350	0.61	34292	59.79	609	245	0.43	46013	80.22
530	287	0.50	21348	37.22	570	355	0.62	34647	60.41	610	248	0.43	46261	80.66
531	307	0.54	21655	37.76	571	308	0.54	34955	60.94	611	270	0.47	46531	81.13
532	328	0.57	21983	38.33	572	312	0.54	35267	61.49	612	265	0.46	46796	81.59
533	280	0.49	22263	38.82	573	297	0.52	35564	62.01	613	252	0.44	47048	82.03
534	320	0.56	22583	39.37	574	321	0.56	35885	62.57	614	244	0.43	47292	82.45
535	303	0.53	22886	39.90	575	337	0.59	36222	63.15	615	219	0.38	47511	82.84
536	334	0.58	23220	40.48	576	336	0.59	36558	63.74	616	227	0.40	47738	83.23
537	327	0.57	23547	41.05	577	306	0.53	36864	64.27	617	230	0.40	47968	83.63
538	316	0.55	23863	41.61	578	320	0.56	37184	64.83	618	208	0.36	48176	83.99
539	320	0.56	24183	42.16	579	304	0.53	37488	65.36	619	221	0.39	48397	84.38
540	371	0.65	24554	42.81	580	317	0.55	37805	65.91	620	223	0.39	48620	84.77
541	345	0.60	24899	43.41	581	308	0.54	38113	66.45	621	215	0.37	48835	85.14
542	326	0.57	25225	43.98	582	314	0.55	38427	67.00	622	183	0.32	49018	85.46
543	356	0.62	25581	44.60	583	330	0.58	38757	67.57	623	206	0.36	49224	85.82
544	326	0.57	25907	45.17	584	308	0.54	39065	68.11	624	207	0.36	49431	86.18
545	365	0.64	26272	45.81	585	317	0.55	39382	68.66	625	224	0.39	49655	86.57
546	328	0.57	26600	46.38	586	304	0.53	39686	69.19	626	219	0.38	49874	86.96
547	336	0.59	26936	46.96	587	310	0.54	39996	69.73	627	171	0.30	50045	87.25
548	370	0.65	27306	47.61	588	284	0.50	40280	70.23	628	185	0.32	50230	87.58
549	344	0.60	27650	48.21	589	280	0.49	40560	70.72	629	182	0.32	50412	87.89
550	317	0.55	27967	48.76	590	312	0.54	40872	71.26	630	185	0.32	50597	88.22
551	349	0.61	28316	49.37	591	298	0.52	41170	71.78	631	186	0.32	50783	88.54
552	351	0.61	28667	49.98	592	269	0.47	41439	72.25	632	166	0.29	50949	88.83
553	349	0.61	29016	50.59	593	296	0.52	41735	72.76	633	202	0.35	51151	89.18
554	327	0.57	29343	51.16	594	248	0.43	41983	73.20	634	174	0.30	51325	89.48
555	317	0.55	29660	51.71	595	258	0.45	42241	73.65	635	176	0.31	51501	89.79
556	341	0.59	30001	52.31	596	278	0.48	42519	74.13	636	177	0.31	51678	90.10
557	337	0.59	30338	52.89	597	290	0.51	42809	74.64	637	172	0.30	51850	90.40
558	340	0.59	30678	53.49	598	304	0.53	43113	75.17	638	150	0.26	52000	90.66
559	308	0.54	30986	54.02	599	299	0.52	43412	75.69	639	146	0.25	52146	90.92
560	292	0.51	31278	54.53	600	281	0.49	43693	76.18	640	164	0.29	52310	91.20
561	332	0.58	31610	55.11	601	262	0.46	43955	76.64	641	182	0.32	52492	91.52
562	331	0.58	31941	55.69	602	276	0.48	44231	77.12	642	133	0.23	52625	91.75
563	355	0.62	32296	56.31	603	242	0.42	44473	77.54	643	155	0.27	52780	92.02

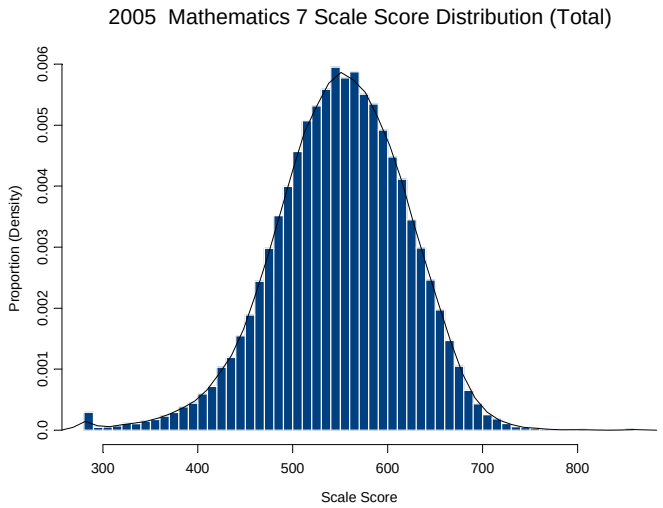
Table A-17. Math 7 Scale Score Distribution (Continued)

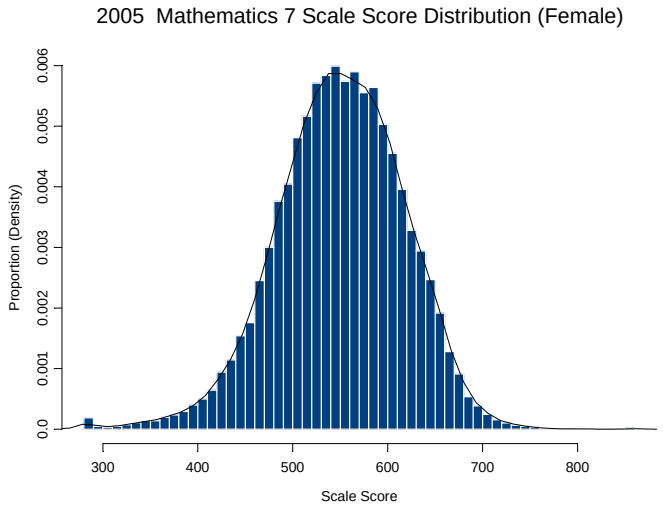
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
644	116	0.20	52896	92.22	684	49	0.09	56476	98.47	724	6	0.01	57191	99.71
645	144	0.25	53040	92.48	685	44	0.08	56520	98.54	725	8	0.01	57199	99.73
646	121	0.21	53161	92.69	686	30	0.05	56550	98.59	726	9	0.02	57208	99.74
647	145	0.25	53306	92.94	687	34	0.06	56584	98.65	727	8	0.01	57216	99.76
648	142	0.25	53448	93.19	688	37	0.06	56621	98.72	728	3	0.01	57219	99.76
649	125	0.22	53573	93.40	689	25	0.04	56646	98.76	729	11	0.02	57230	99.78
650	149	0.26	53722	93.66	690	28	0.05	56674	98.81	730	9	0.02	57239	99.80
651	120	0.21	53842	93.87	691	28	0.05	56702	98.86	731	6	0.01	57245	99.81
652	121	0.21	53963	94.08	692	31	0.05	56733	98.91	732	6	0.01	57251	99.82
653	120	0.21	54083	94.29	693	28	0.05	56761	98.96	733	3	0.01	57254	99.82
654	124	0.22	54207	94.51	694	27	0.05	56788	99.01	734	3	0.01	57257	99.83
655	119	0.21	54326	94.72	695	18	0.03	56806	99.04	735	4	0.01	57261	99.83
656	121	0.21	54447	94.93	696	30	0.05	56836	99.09	736	5	0.01	57266	99.84
657	110	0.19	54557	95.12	697	17	0.03	56853	99.12	737	2	0.00	57268	99.85
658	106	0.18	54663	95.30	698	25	0.04	56878	99.17	739	2	0.00	57270	99.85
659	104	0.18	54767	95.49	699	22	0.04	56900	99.20	740	2	0.00	57272	99.85
660	86	0.15	54853	95.64	700	23	0.04	56923	99.25	742	2	0.00	57274	99.86
661	93	0.16	54946	95.80	701	17	0.03	56940	99.27	743	6	0.01	57280	99.87
662	93	0.16	55039	95.96	702	17	0.03	56957	99.30	745	3	0.01	57283	99.87
663	98	0.17	55137	96.13	703	19	0.03	56976	99.34	746	1	0.00	57284	99.87
664	91	0.16	55228	96.29	704	12	0.02	56988	99.36	747	2	0.00	57286	99.88
665	90	0.16	55318	96.45	705	20	0.03	57008	99.39	748	2	0.00	57288	99.88
666	93	0.16	55411	96.61	706	16	0.03	57024	99.42	749	3	0.01	57291	99.89
667	81	0.14	55492	96.75	707	19	0.03	57043	99.45	750	6	0.01	57297	99.90
668	75	0.13	55567	96.88	708	8	0.01	57051	99.47	751	2	0.00	57299	99.90
669	63	0.11	55630	96.99	709	5	0.01	57056	99.48	752	2	0.00	57301	99.90
670	67	0.12	55697	97.11	710	12	0.02	57068	99.50	754	1	0.00	57302	99.91
671	63	0.11	55760	97.22	711	11	0.02	57079	99.52	755	1	0.00	57303	99.91
672	66	0.12	55826	97.33	712	15	0.03	57094	99.54	756	4	0.01	57307	99.91
673	67	0.12	55893	97.45	713	14	0.02	57108	99.57	757	1	0.00	57308	99.92
674	62	0.11	55955	97.56	714	9	0.02	57117	99.58	758	1	0.00	57309	99.92
675	66	0.12	56021	97.67	715	11	0.02	57128	99.60	759	1	0.00	57310	99.92
676	60	0.10	56081	97.78	716	10	0.02	57138	99.62	760	5	0.01	57315	99.93
677	61	0.11	56142	97.88	717	12	0.02	57150	99.64	762	2	0.00	57317	99.93
678	50	0.09	56192	97.97	718	10	0.02	57160	99.66	763	3	0.01	57320	99.94
679	50	0.09	56242	98.06	719	6	0.01	57166	99.67	765	1	0.00	57321	99.94
680	57	0.10	56299	98.16	720	9	0.02	57175	99.68	766	1	0.00	57322	99.94
681	44	0.08	56343	98.23	721	4	0.01	57179	99.69	767	2	0.00	57324	99.94
682	41	0.07	56384	98.31	722	3	0.01	57182	99.70	772	1	0.00	57325	99.95
683	43	0.07	56427	98.38	723	3	0.01	57185	99.70	774	3	0.01	57328	99.95

Table A-17. Math 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
775	1	0.00	57329	99.95										
777	1	0.00	57330	99.95										
787	2	0.00	57332	99.96										
790	3	0.01	57335	99.96										
791	1	0.00	57336	99.97										
806	8	0.01	57344	99.98										
860	12	0.02	57356	100.00										

Figure A-17. Math 7 Scale Score Distributions for the Total Population, Female, and Male Students





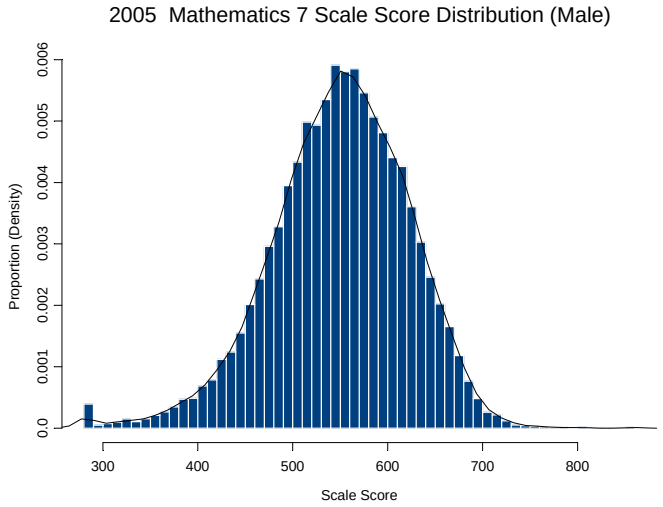


Table A-18. Reading 7 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
300	286	0.50	286	0.50	397	3	0.01	354	0.62	437	3	0.01	519	0.91
310	1	0.00	287	0.50	398	2	0.00	356	0.62	438	8	0.01	527	0.92
325	1	0.00	288	0.50	399	1	0.00	357	0.62	439	4	0.01	531	0.93
331	1	0.00	289	0.50	400	3	0.01	360	0.63	440	7	0.01	538	0.94
334	1	0.00	290	0.51	401	2	0.00	362	0.63	441	7	0.01	545	0.95
339	1	0.00	291	0.51	402	2	0.00	364	0.64	442	9	0.02	554	0.97
341	2	0.00	293	0.51	403	3	0.01	367	0.64	443	5	0.01	559	0.98
343	2	0.00	295	0.52	404	2	0.00	369	0.64	444	6	0.01	565	0.99
350	1	0.00	296	0.52	405	2	0.00	371	0.65	445	7	0.01	572	1.00
354	1	0.00	297	0.52	406	5	0.01	376	0.66	446	5	0.01	577	1.01
357	1	0.00	298	0.52	407	6	0.01	382	0.67	447	9	0.02	586	1.02
358	1	0.00	299	0.52	408	2	0.00	384	0.67	448	13	0.02	599	1.05
363	1	0.00	300	0.52	409	3	0.01	387	0.68	449	6	0.01	605	1.06
364	1	0.00	301	0.53	410	4	0.01	391	0.68	450	21	0.04	626	1.09
365	1	0.00	302	0.53	411	2	0.00	393	0.69	451	10	0.02	636	1.11
366	2	0.00	304	0.53	412	3	0.01	396	0.69	452	7	0.01	643	1.12
368	2	0.00	306	0.53	413	5	0.01	401	0.70	453	16	0.03	659	1.15
369	1	0.00	307	0.54	414	6	0.01	407	0.71	454	12	0.02	671	1.17
371	2	0.00	309	0.54	415	4	0.01	411	0.72	455	10	0.02	681	1.19
372	3	0.01	312	0.55	416	4	0.01	415	0.73	456	15	0.03	696	1.22
373	1	0.00	313	0.55	417	3	0.01	418	0.73	457	16	0.03	712	1.24
376	2	0.00	315	0.55	418	5	0.01	423	0.74	458	13	0.02	725	1.27
377	2	0.00	317	0.55	419	2	0.00	425	0.74	459	11	0.02	736	1.29
378	1	0.00	318	0.56	420	3	0.01	428	0.75	460	16	0.03	752	1.31
380	1	0.00	319	0.56	421	4	0.01	432	0.75	461	17	0.03	769	1.34
381	2	0.00	321	0.56	422	6	0.01	438	0.77	462	12	0.02	781	1.36
382	1	0.00	322	0.56	423	6	0.01	444	0.78	463	16	0.03	797	1.39
383	2	0.00	324	0.57	424	5	0.01	449	0.78	464	24	0.04	821	1.43
384	2	0.00	326	0.57	425	8	0.01	457	0.80	465	20	0.03	841	1.47
385	3	0.01	329	0.57	426	7	0.01	464	0.81	466	12	0.02	853	1.49
386	1	0.00	330	0.58	427	6	0.01	470	0.82	467	16	0.03	869	1.52
387	1	0.00	331	0.58	428	8	0.01	478	0.84	468	15	0.03	884	1.54
388	1	0.00	332	0.58	429	10	0.02	488	0.85	469	11	0.02	895	1.56
389	1	0.00	333	0.58	430	1	0.00	489	0.85	470	20	0.03	915	1.60
391	2	0.00	335	0.59	431	6	0.01	495	0.86	471	22	0.04	937	1.64
392	2	0.00	337	0.59	432	6	0.01	501	0.88	472	26	0.05	963	1.68
393	2	0.00	339	0.59	433	4	0.01	505	0.88	473	21	0.04	984	1.72
394	7	0.01	346	0.60	434	6	0.01	511	0.89	474	19	0.03	1003	1.75
395	2	0.00	348	0.61	435	2	0.00	513	0.90	475	28	0.05	1031	1.80
396	3	0.01	351	0.61	436	3	0.01	516	0.90	476	19	0.03	1050	1.83

Table A-18. Reading 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
477	17	0.03	1067	1.86	517	55	0.10	2606	4.55	557	131	0.23	6271	10.96
478	15	0.03	1082	1.89	518	59	0.10	2665	4.66	558	125	0.22	6396	11.17
479	19	0.03	1101	1.92	519	64	0.11	2729	4.77	559	131	0.23	6527	11.40
480	20	0.03	1121	1.96	520	49	0.09	2778	4.85	560	122	0.21	6649	11.62
481	39	0.07	1160	2.03	521	67	0.12	2845	4.97	561	133	0.23	6782	11.85
482	25	0.04	1185	2.07	522	52	0.09	2897	5.06	562	130	0.23	6912	12.08
483	20	0.03	1205	2.11	523	73	0.13	2970	5.19	563	118	0.21	7030	12.28
484	25	0.04	1230	2.15	524	79	0.14	3049	5.33	564	137	0.24	7167	12.52
485	27	0.05	1257	2.20	525	66	0.12	3115	5.44	565	151	0.26	7318	12.79
486	30	0.05	1287	2.25	526	68	0.12	3183	5.56	566	174	0.30	7492	13.09
487	20	0.03	1307	2.28	527	79	0.14	3262	5.70	567	148	0.26	7640	13.35
488	31	0.05	1338	2.34	528	73	0.13	3335	5.83	568	138	0.24	7778	13.59
489	35	0.06	1373	2.40	529	79	0.14	3414	5.96	569	150	0.26	7928	13.85
490	28	0.05	1401	2.45	530	73	0.13	3487	6.09	570	139	0.24	8067	14.09
491	37	0.06	1438	2.51	531	80	0.14	3567	6.23	571	151	0.26	8218	14.36
492	32	0.06	1470	2.57	532	80	0.14	3647	6.37	572	163	0.28	8381	14.64
493	47	0.08	1517	2.65	533	72	0.13	3719	6.50	573	145	0.25	8526	14.90
494	38	0.07	1555	2.72	534	69	0.12	3788	6.62	574	157	0.27	8683	15.17
495	33	0.06	1588	2.77	535	84	0.15	3872	6.76	575	178	0.31	8861	15.48
496	39	0.07	1627	2.84	536	106	0.19	3978	6.95	576	170	0.30	9031	15.78
497	35	0.06	1662	2.90	537	103	0.18	4081	7.13	577	177	0.31	9208	16.09
498	36	0.06	1698	2.97	538	95	0.17	4176	7.30	578	182	0.32	9390	16.41
499	27	0.05	1725	3.01	539	111	0.19	4287	7.49	579	175	0.31	9565	16.71
500	45	0.08	1770	3.09	540	83	0.15	4370	7.64	580	192	0.34	9757	17.05
501	36	0.06	1806	3.16	541	112	0.20	4482	7.83	581	213	0.37	9970	17.42
502	33	0.06	1839	3.21	542	104	0.18	4586	8.01	582	195	0.34	10165	17.76
503	50	0.09	1889	3.30	543	102	0.18	4688	8.19	583	206	0.36	10371	18.12
504	46	0.08	1935	3.38	544	89	0.16	4777	8.35	584	189	0.33	10560	18.45
505	53	0.09	1988	3.47	545	121	0.21	4898	8.56	585	215	0.38	10775	18.83
506	45	0.08	2033	3.55	546	90	0.16	4988	8.71	586	180	0.31	10955	19.14
507	39	0.07	2072	3.62	547	88	0.15	5076	8.87	587	205	0.36	11160	19.50
508	52	0.09	2124	3.71	548	108	0.19	5184	9.06	588	235	0.41	11395	19.91
509	47	0.08	2171	3.79	549	131	0.23	5315	9.29	589	208	0.36	11603	20.27
510	55	0.10	2226	3.89	550	106	0.19	5421	9.47	590	224	0.39	11827	20.66
511	54	0.09	2280	3.98	551	113	0.20	5534	9.67	591	220	0.38	12047	21.05
512	56	0.10	2336	4.08	552	127	0.22	5661	9.89	592	223	0.39	12270	21.44
513	58	0.10	2394	4.18	553	114	0.20	5775	10.09	593	250	0.44	12520	21.87
514	49	0.09	2443	4.27	554	114	0.20	5889	10.29	594	203	0.35	12723	22.23
515	64	0.11	2507	4.38	555	134	0.23	6023	10.52	595	231	0.40	12954	22.63
516	44	0.08	2551	4.46	556	117	0.20	6140	10.73	596	237	0.41	13191	23.05

Table A-18. Reading 7 Scale Score Distribution (Continued)

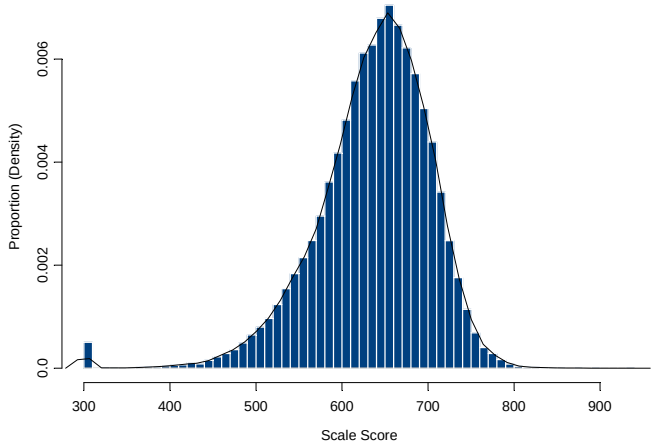
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
597	247	0.43	13438	23.48	637	372	0.65	26146	45.68	677	355	0.62	41494	72.50
598	251	0.44	13689	23.92	638	398	0.70	26544	46.38	678	379	0.66	41873	73.16
599	259	0.45	13948	24.37	639	364	0.64	26908	47.01	679	323	0.56	42196	73.72
600	271	0.47	14219	24.84	640	352	0.61	27260	47.63	680	355	0.62	42551	74.34
601	279	0.49	14498	25.33	641	367	0.64	27627	48.27	681	379	0.66	42930	75.01
602	245	0.43	14743	25.76	642	411	0.72	28038	48.99	682	332	0.58	43262	75.59
603	283	0.49	15026	26.25	643	376	0.66	28414	49.64	683	358	0.63	43620	76.21
604	253	0.44	15279	26.69	644	382	0.67	28796	50.31	684	372	0.65	43992	76.86
605	263	0.46	15542	27.15	645	369	0.64	29165	50.96	685	293	0.51	44285	77.37
606	275	0.48	15817	27.63	646	410	0.72	29575	51.67	686	303	0.53	44588	77.90
607	286	0.50	16103	28.13	647	389	0.68	29964	52.35	687	306	0.53	44894	78.44
608	300	0.52	16403	28.66	648	405	0.71	30369	53.06	688	327	0.57	45221	79.01
609	269	0.47	16672	29.13	649	369	0.64	30738	53.70	689	301	0.53	45522	79.53
610	304	0.53	16976	29.66	650	409	0.71	31147	54.42	690	302	0.53	45824	80.06
611	285	0.50	17261	30.16	651	400	0.70	31547	55.12	691	311	0.54	46135	80.60
612	294	0.51	17555	30.67	652	402	0.70	31949	55.82	692	296	0.52	46431	81.12
613	316	0.55	17871	31.22	653	422	0.74	32371	56.56	693	283	0.49	46714	81.62
614	286	0.50	18157	31.72	654	404	0.71	32775	57.26	694	295	0.52	47009	82.13
615	299	0.52	18456	32.25	655	390	0.68	33165	57.94	695	296	0.52	47305	82.65
616	329	0.57	18785	32.82	656	408	0.71	33573	58.66	696	301	0.53	47606	83.17
617	344	0.60	19129	33.42	657	392	0.68	33965	59.34	697	308	0.54	47914	83.71
618	354	0.62	19483	34.04	658	414	0.72	34379	60.07	698	272	0.48	48186	84.19
619	359	0.63	19842	34.67	659	387	0.68	34766	60.74	699	248	0.43	48434	84.62
620	327	0.57	20169	35.24	660	415	0.73	35181	61.47	700	276	0.48	48710	85.10
621	348	0.61	20517	35.85	661	380	0.66	35561	62.13	701	274	0.48	48984	85.58
622	354	0.62	20871	36.46	662	351	0.61	35912	62.74	702	272	0.48	49256	86.06
623	363	0.63	21234	37.10	663	405	0.71	36317	63.45	703	264	0.46	49520	86.52
624	342	0.60	21576	37.70	664	400	0.70	36717	64.15	704	261	0.46	49781	86.97
625	341	0.60	21917	38.29	665	395	0.69	37112	64.84	705	258	0.45	50039	87.43
626	323	0.56	22240	38.86	666	371	0.65	37483	65.49	706	282	0.49	50321	87.92
627	358	0.63	22598	39.48	667	384	0.67	37867	66.16	707	224	0.39	50545	88.31
628	352	0.61	22950	40.10	668	398	0.70	38265	66.85	708	215	0.38	50760	88.69
629	352	0.61	23302	40.71	669	361	0.63	38626	67.49	709	225	0.39	50985	89.08
630	368	0.64	23670	41.36	670	366	0.64	38992	68.12	710	238	0.42	51223	89.49
631	338	0.59	24008	41.95	671	369	0.64	39361	68.77	711	213	0.37	51436	89.87
632	344	0.60	24352	42.55	672	370	0.65	39731	69.42	712	214	0.37	51650	90.24
633	322	0.56	24674	43.11	673	335	0.59	40066	70.00	713	231	0.40	51881	90.64
634	364	0.64	25038	43.75	674	357	0.62	40423	70.63	714	204	0.36	52085	91.00
635	362	0.63	25400	44.38	675	351	0.61	40774	71.24	715	197	0.34	52282	91.34
636	374	0.65	25774	45.03	676	365	0.64	41139	71.88	716	172	0.30	52454	91.65

Table A-18. Reading 7 Scale Score Distribution (Continued)

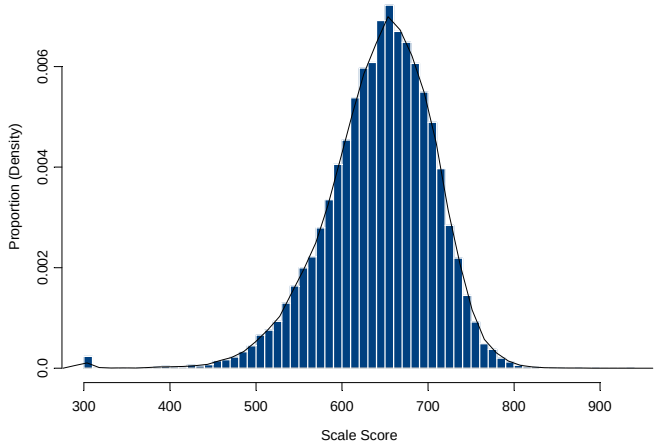
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
717	205	0.36	52659	92.00	757	36	0.06	56567	98.83	798	2	0.00	57172	99.89
718	187	0.33	52846	92.33	758	26	0.05	56593	98.88	799	7	0.01	57179	99.90
719	181	0.32	53027	92.65	759	27	0.05	56620	98.92	800	2	0.00	57181	99.90
720	153	0.27	53180	92.91	760	29	0.05	56649	98.97	801	5	0.01	57186	99.91
721	132	0.23	53312	93.14	761	36	0.06	56685	99.04	802	4	0.01	57190	99.92
722	159	0.28	53471	93.42	762	34	0.06	56719	99.10	803	1	0.00	57191	99.92
723	170	0.30	53641	93.72	763	21	0.04	56740	99.13	804	4	0.01	57195	99.93
724	149	0.26	53790	93.98	764	21	0.04	56761	99.17	805	3	0.01	57198	99.93
725	144	0.25	53934	94.23	765	14	0.02	56775	99.19	806	2	0.00	57200	99.94
726	132	0.23	54066	94.46	766	24	0.04	56799	99.24	807	1	0.00	57201	99.94
727	123	0.21	54189	94.68	767	21	0.04	56820	99.27	810	1	0.00	57202	99.94
728	118	0.21	54307	94.88	768	18	0.03	56838	99.30	812	1	0.00	57203	99.94
729	153	0.27	54460	95.15	769	18	0.03	56856	99.34	813	2	0.00	57205	99.95
730	136	0.24	54596	95.39	770	21	0.04	56877	99.37	814	1	0.00	57206	99.95
731	118	0.21	54714	95.59	771	23	0.04	56900	99.41	815	1	0.00	57207	99.95
732	113	0.20	54827	95.79	772	20	0.03	56920	99.45	816	1	0.00	57208	99.95
733	111	0.19	54938	95.99	773	24	0.04	56944	99.49	818	3	0.01	57211	99.96
734	115	0.20	55053	96.19	774	23	0.04	56967	99.53	819	2	0.00	57213	99.96
735	102	0.18	55155	96.36	775	11	0.02	56978	99.55	821	1	0.00	57214	99.96
736	95	0.17	55250	96.53	776	12	0.02	56990	99.57	822	1	0.00	57215	99.96
737	101	0.18	55351	96.71	777	15	0.03	57005	99.60	823	2	0.00	57217	99.97
738	92	0.16	55443	96.87	778	16	0.03	57021	99.62	826	1	0.00	57218	99.97
739	93	0.16	55536	97.03	779	9	0.02	57030	99.64	827	3	0.01	57221	99.97
740	67	0.12	55603	97.15	780	10	0.02	57040	99.66	828	1	0.00	57222	99.98
741	90	0.16	55693	97.30	781	14	0.02	57054	99.68	830	1	0.00	57223	99.98
742	60	0.10	55753	97.41	782	13	0.02	57067	99.70	831	1	0.00	57224	99.98
743	67	0.12	55820	97.53	783	13	0.02	57080	99.73	832	1	0.00	57225	99.98
744	74	0.13	55894	97.66	784	9	0.02	57089	99.74	834	1	0.00	57226	99.98
745	72	0.13	55966	97.78	785	10	0.02	57099	99.76	837	1	0.00	57227	99.98
746	61	0.11	56027	97.89	786	8	0.01	57107	99.77	846	1	0.00	57228	99.99
747	53	0.09	56080	97.98	787	8	0.01	57115	99.79	848	2	0.00	57230	99.99
748	70	0.12	56150	98.10	788	11	0.02	57126	99.81	853	1	0.00	57231	99.99
749	56	0.10	56206	98.20	789	3	0.01	57129	99.81	856	1	0.00	57232	99.99
750	51	0.09	56257	98.29	790	6	0.01	57135	99.82	875	2	0.00	57234	100.00
751	48	0.08	56305	98.37	791	4	0.01	57139	99.83	897	1	0.00	57235	100.00
752	61	0.11	56366	98.48	792	6	0.01	57145	99.84	937	1	0.00	57236	100.00
753	41	0.07	56407	98.55	793	7	0.01	57152	99.85					
754	54	0.09	56461	98.65	794	5	0.01	57157	99.86					
755	35	0.06	56496	98.71	795	7	0.01	57164	99.87					
756	35	0.06	56531	98.77	797	6	0.01	57170	99.88					

Figure A-18. Reading 7 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 7 Scale Score Distribution (Total)



2005 Reading 7 Scale Score Distribution (Female)



2005 Reading 7 Scale Score Distribution (Male)

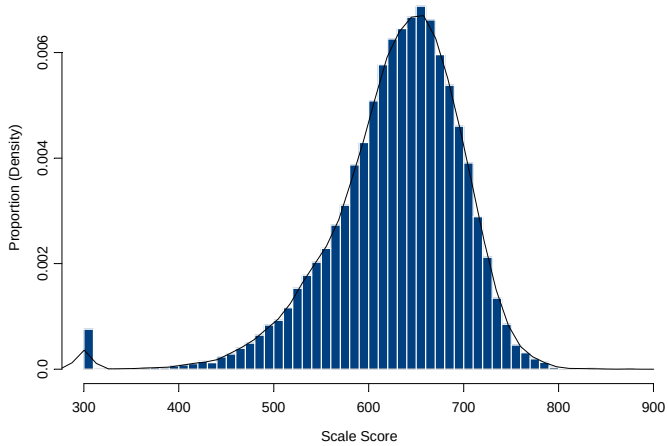


Table A-19. Writing 7 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
240	25	0.04	25	0.04	317	1	0.00	114	0.20	357	14	0.02	341	0.60
243	1	0.00	26	0.05	318	1	0.00	115	0.20	358	15	0.03	356	0.62
249	2	0.00	28	0.05	319	1	0.00	116	0.20	359	12	0.02	368	0.64
254	3	0.01	31	0.05	320	3	0.01	119	0.21	360	11	0.02	379	0.66
255	1	0.00	32	0.06	321	2	0.00	121	0.21	361	17	0.03	396	0.69
261	1	0.00	33	0.06	322	4	0.01	125	0.22	362	11	0.02	407	0.71
265	1	0.00	34	0.06	323	3	0.01	128	0.22	363	7	0.01	414	0.72
268	2	0.00	36	0.06	324	3	0.01	131	0.23	364	15	0.03	429	0.75
269	1	0.00	37	0.06	325	2	0.00	133	0.23	365	21	0.04	450	0.79
274	3	0.01	40	0.07	326	6	0.01	139	0.24	366	15	0.03	465	0.81
275	2	0.00	42	0.07	327	1	0.00	140	0.24	367	17	0.03	482	0.84
277	1	0.00	43	0.08	328	2	0.00	142	0.25	368	21	0.04	503	0.88
278	1	0.00	44	0.08	329	1	0.00	143	0.25	369	17	0.03	520	0.91
281	4	0.01	48	0.08	330	4	0.01	147	0.26	370	20	0.03	540	0.94
283	1	0.00	49	0.09	331	4	0.01	151	0.26	371	26	0.05	566	0.99
284	1	0.00	50	0.09	332	2	0.00	153	0.27	372	24	0.04	590	1.03
286	1	0.00	51	0.09	333	7	0.01	160	0.28	373	36	0.06	626	1.09
287	1	0.00	52	0.09	334	5	0.01	165	0.29	374	11	0.02	637	1.11
290	3	0.01	55	0.10	335	2	0.00	167	0.29	375	19	0.03	656	1.15
291	1	0.00	56	0.10	336	5	0.01	172	0.30	376	21	0.04	677	1.18
294	3	0.01	59	0.10	337	3	0.01	175	0.31	377	18	0.03	695	1.22
297	1	0.00	60	0.10	338	5	0.01	180	0.31	378	24	0.04	719	1.26
298	1	0.00	61	0.11	339	6	0.01	186	0.33	379	25	0.04	744	1.30
299	2	0.00	63	0.11	340	5	0.01	191	0.33	380	26	0.05	770	1.35
300	3	0.01	66	0.12	341	5	0.01	196	0.34	381	27	0.05	797	1.39
301	3	0.01	69	0.12	342	9	0.02	205	0.36	382	25	0.04	822	1.44
302	2	0.00	71	0.12	343	7	0.01	212	0.37	383	26	0.05	848	1.48
303	3	0.01	74	0.13	344	8	0.01	220	0.38	384	24	0.04	872	1.52
304	2	0.00	76	0.13	345	5	0.01	225	0.39	385	26	0.05	898	1.57
305	1	0.00	77	0.13	346	5	0.01	230	0.40	386	20	0.03	918	1.60
306	4	0.01	81	0.14	347	14	0.02	244	0.43	387	27	0.05	945	1.65
308	1	0.00	82	0.14	348	9	0.02	253	0.44	388	27	0.05	972	1.70
309	1	0.00	83	0.15	349	3	0.01	256	0.45	389	21	0.04	993	1.74
310	3	0.01	86	0.15	350	6	0.01	262	0.46	390	26	0.05	1019	1.78
311	5	0.01	91	0.16	351	9	0.02	271	0.47	391	24	0.04	1043	1.82
312	4	0.01	95	0.17	352	10	0.02	281	0.49	392	30	0.05	1073	1.88
313	6	0.01	101	0.18	353	11	0.02	292	0.51	393	35	0.06	1108	1.94
314	3	0.01	104	0.18	354	14	0.02	306	0.53	394	45	0.08	1153	2.02
315	5	0.01	109	0.19	355	10	0.02	316	0.55	395	35	0.06	1188	2.08
316	4	0.01	113	0.20	356	11	0.02	327	0.57	396	37	0.06	1225	2.14

Table A-19. Writing 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
397	40	0.07	1265	2.21	437	91	0.16	3594	6.28	477	183	0.32	8852	15.48
398	35	0.06	1300	2.27	438	83	0.15	3677	6.43	478	163	0.28	9015	15.76
399	42	0.07	1342	2.35	439	97	0.17	3774	6.60	479	175	0.31	9190	16.07
400	42	0.07	1384	2.42	440	95	0.17	3869	6.76	480	163	0.28	9353	16.35
401	25	0.04	1409	2.46	441	82	0.14	3951	6.91	481	176	0.31	9529	16.66
402	32	0.06	1441	2.52	442	87	0.15	4038	7.06	482	173	0.30	9702	16.96
403	32	0.06	1473	2.58	443	93	0.16	4131	7.22	483	199	0.35	9901	17.31
404	45	0.08	1518	2.65	444	90	0.16	4221	7.38	484	190	0.33	10091	17.64
405	33	0.06	1551	2.71	445	100	0.17	4321	7.55	485	201	0.35	10292	17.99
406	40	0.07	1591	2.78	446	120	0.21	4441	7.76	486	225	0.39	10517	18.39
407	53	0.09	1644	2.87	447	122	0.21	4563	7.98	487	195	0.34	10712	18.73
408	35	0.06	1679	2.94	448	105	0.18	4668	8.16	488	236	0.41	10948	19.14
409	50	0.09	1729	3.02	449	142	0.25	4810	8.41	489	208	0.36	11156	19.50
410	40	0.07	1769	3.09	450	112	0.20	4922	8.60	490	215	0.38	11371	19.88
411	42	0.07	1811	3.17	451	118	0.21	5040	8.81	491	225	0.39	11596	20.27
412	51	0.09	1862	3.26	452	105	0.18	5145	8.99	492	209	0.37	11805	20.64
413	56	0.10	1918	3.35	453	122	0.21	5267	9.21	493	228	0.40	12033	21.04
414	52	0.09	1970	3.44	454	118	0.21	5385	9.41	494	220	0.38	12253	21.42
415	66	0.12	2036	3.56	455	116	0.20	5501	9.62	495	224	0.39	12477	21.81
416	57	0.10	2093	3.66	456	125	0.22	5626	9.84	496	222	0.39	12699	22.20
417	59	0.10	2152	3.76	457	113	0.20	5739	10.03	497	252	0.44	12951	22.64
418	65	0.11	2217	3.88	458	139	0.24	5878	10.28	498	219	0.38	13170	23.02
419	50	0.09	2267	3.96	459	142	0.25	6020	10.52	499	217	0.38	13387	23.40
420	73	0.13	2340	4.09	460	151	0.26	6171	10.79	500	227	0.40	13614	23.80
421	64	0.11	2404	4.20	461	163	0.28	6334	11.07	501	235	0.41	13849	24.21
422	70	0.12	2474	4.33	462	140	0.24	6474	11.32	502	263	0.46	14112	24.67
423	68	0.12	2542	4.44	463	149	0.26	6623	11.58	503	238	0.42	14350	25.09
424	64	0.11	2606	4.56	464	156	0.27	6779	11.85	504	255	0.45	14605	25.53
425	53	0.09	2659	4.65	465	135	0.24	6914	12.09	505	253	0.44	14858	25.98
426	69	0.12	2728	4.77	466	145	0.25	7059	12.34	506	244	0.43	15102	26.40
427	71	0.12	2799	4.89	467	142	0.25	7201	12.59	507	293	0.51	15395	26.91
428	62	0.11	2861	5.00	468	152	0.27	7353	12.85	508	206	0.36	15601	27.27
429	71	0.12	2932	5.13	469	172	0.30	7525	13.16	509	239	0.42	15840	27.69
430	72	0.13	3004	5.25	470	149	0.26	7674	13.42	510	237	0.41	16077	28.11
431	69	0.12	3073	5.37	471	146	0.26	7820	13.67	511	284	0.50	16361	28.60
432	86	0.15	3159	5.52	472	157	0.27	7977	13.95	512	245	0.43	16606	29.03
433	73	0.13	3232	5.65	473	169	0.30	8146	14.24	513	302	0.53	16908	29.56
434	86	0.15	3318	5.80	474	171	0.30	8317	14.54	514	261	0.46	17169	30.02
435	93	0.16	3411	5.96	475	176	0.31	8493	14.85	515	271	0.47	17440	30.49
436	92	0.16	3503	6.12	476	176	0.31	8669	15.16	516	308	0.54	17748	31.03

Table A-19. Writing 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
517	248	0.43	17996	31.46	557	347	0.61	30806	53.86	597	274	0.48	43375	75.83
518	284	0.50	18280	31.96	558	343	0.60	31149	54.46	598	276	0.48	43651	76.31
519	288	0.50	18568	32.46	559	324	0.57	31473	55.02	599	261	0.46	43912	76.77
520	253	0.44	18821	32.90	560	306	0.53	31779	55.56	600	265	0.46	44177	77.23
521	303	0.53	19124	33.43	561	330	0.58	32109	56.13	601	226	0.40	44403	77.63
522	287	0.50	19411	33.93	562	332	0.58	32441	56.71	602	276	0.48	44679	78.11
523	265	0.46	19676	34.40	563	304	0.53	32745	57.25	603	246	0.43	44925	78.54
524	272	0.48	19948	34.87	564	341	0.60	33086	57.84	604	265	0.46	45190	79.00
525	314	0.55	20262	35.42	565	324	0.57	33410	58.41	605	243	0.42	45433	79.43
526	315	0.55	20577	35.97	566	321	0.56	33731	58.97	606	264	0.46	45697	79.89
527	315	0.55	20892	36.52	567	321	0.56	34052	59.53	607	210	0.37	45907	80.26
528	312	0.55	21204	37.07	568	326	0.57	34378	60.10	608	255	0.45	46162	80.70
529	320	0.56	21524	37.63	569	370	0.65	34748	60.75	609	227	0.40	46389	81.10
530	310	0.54	21834	38.17	570	326	0.57	35074	61.32	610	227	0.40	46616	81.50
531	307	0.54	22141	38.71	571	324	0.57	35398	61.88	611	242	0.42	46858	81.92
532	320	0.56	22461	39.27	572	306	0.53	35704	62.42	612	233	0.41	47091	82.33
533	345	0.60	22806	39.87	573	290	0.51	35994	62.93	613	203	0.35	47294	82.68
534	295	0.52	23101	40.39	574	321	0.56	36315	63.49	614	237	0.41	47531	83.09
535	314	0.55	23415	40.93	575	323	0.56	36638	64.05	615	212	0.37	47743	83.47
536	305	0.53	23720	41.47	576	327	0.57	36965	64.62	616	222	0.39	47965	83.85
537	308	0.54	24028	42.01	577	302	0.53	37267	65.15	617	218	0.38	48183	84.23
538	358	0.63	24386	42.63	578	316	0.55	37583	65.70	618	200	0.35	48383	84.58
539	370	0.65	24756	43.28	579	335	0.59	37918	66.29	619	201	0.35	48584	84.94
540	329	0.58	25085	43.85	580	325	0.57	38243	66.86	620	179	0.31	48763	85.25
541	330	0.58	25415	44.43	581	304	0.53	38547	67.39	621	206	0.36	48969	85.61
542	356	0.62	25771	45.05	582	316	0.55	38863	67.94	622	179	0.31	49148	85.92
543	323	0.56	26094	45.62	583	315	0.55	39178	68.49	623	184	0.32	49332	86.24
544	344	0.60	26438	46.22	584	331	0.58	39509	69.07	624	199	0.35	49531	86.59
545	328	0.57	26766	46.79	585	308	0.54	39817	69.61	625	164	0.29	49695	86.88
546	300	0.52	27066	47.32	586	312	0.55	40129	70.15	626	165	0.29	49860	87.17
547	354	0.62	27420	47.94	587	303	0.53	40432	70.68	627	177	0.31	50037	87.48
548	340	0.59	27760	48.53	588	313	0.55	40745	71.23	628	167	0.29	50204	87.77
549	347	0.61	28107	49.14	589	313	0.55	41058	71.78	629	155	0.27	50359	88.04
550	331	0.58	28438	49.72	590	278	0.49	41336	72.26	630	182	0.32	50541	88.36
551	338	0.59	28776	50.31	591	303	0.53	41639	72.79	631	171	0.30	50712	88.66
552	349	0.61	29125	50.92	592	302	0.53	41941	73.32	632	160	0.28	50872	88.94
553	329	0.58	29454	51.49	593	315	0.55	42256	73.87	633	141	0.25	51013	89.18
554	340	0.59	29794	52.09	594	271	0.47	42527	74.35	634	144	0.25	51157	89.43
555	321	0.56	30115	52.65	595	289	0.51	42816	74.85	635	148	0.26	51305	89.69
556	344	0.60	30459	53.25	596	285	0.50	43101	75.35	636	139	0.24	51444	89.94

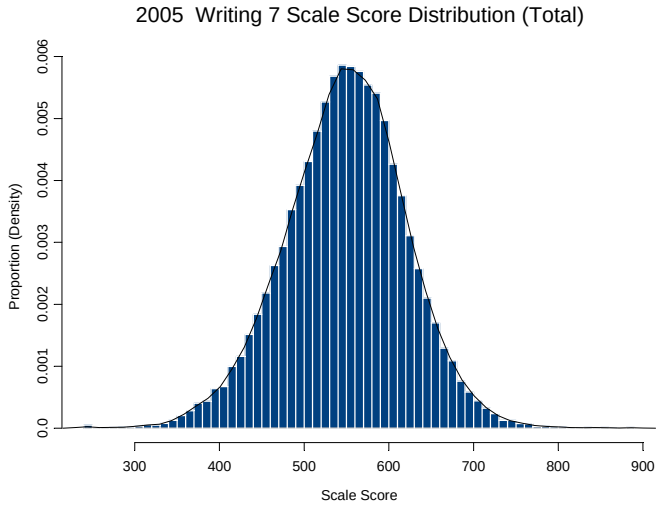
Table A-19. Writing 7 Scale Score Distribution (Continued)

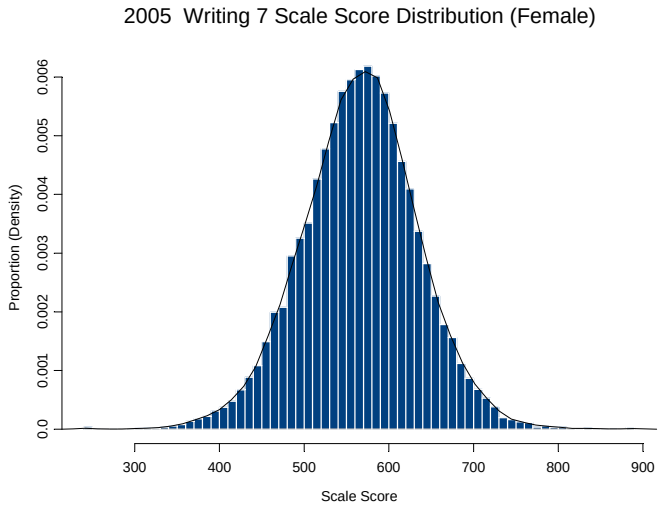
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
637	168	0.29	51612	90.23	677	61	0.11	55369	96.80	717	23	0.04	56707	99.14
638	145	0.25	51757	90.48	678	74	0.13	55443	96.93	718	20	0.03	56727	99.17
639	132	0.23	51889	90.71	679	45	0.08	55488	97.01	719	15	0.03	56742	99.20
640	126	0.22	52015	90.93	680	61	0.11	55549	97.11	720	11	0.02	56753	99.22
641	139	0.24	52154	91.18	681	43	0.08	55592	97.19	721	19	0.03	56772	99.25
642	126	0.22	52280	91.40	682	57	0.10	55649	97.29	722	4	0.01	56776	99.26
643	108	0.19	52388	91.59	683	56	0.10	55705	97.38	723	18	0.03	56794	99.29
644	120	0.21	52508	91.80	684	40	0.07	55745	97.45	724	13	0.02	56807	99.31
645	139	0.24	52647	92.04	685	40	0.07	55785	97.52	725	17	0.03	56824	99.34
646	120	0.21	52767	92.25	686	45	0.08	55830	97.60	726	11	0.02	56835	99.36
647	116	0.20	52883	92.45	687	37	0.06	55867	97.67	727	16	0.03	56851	99.39
648	115	0.20	52998	92.65	688	43	0.08	55910	97.74	728	9	0.02	56860	99.40
649	126	0.22	53124	92.87	689	35	0.06	55945	97.80	729	14	0.02	56874	99.43
650	92	0.16	53216	93.03	690	38	0.07	55983	97.87	730	13	0.02	56887	99.45
651	112	0.20	53328	93.23	691	38	0.07	56021	97.94	731	9	0.02	56896	99.47
652	103	0.18	53431	93.41	692	33	0.06	56054	97.99	732	9	0.02	56905	99.48
653	113	0.20	53544	93.61	693	32	0.06	56086	98.05	733	8	0.01	56913	99.50
654	110	0.19	53654	93.80	694	28	0.05	56114	98.10	734	10	0.02	56923	99.51
655	103	0.18	53757	93.98	695	35	0.06	56149	98.16	735	7	0.01	56930	99.53
656	100	0.17	53857	94.15	696	42	0.07	56191	98.23	736	8	0.01	56938	99.54
657	80	0.14	53937	94.29	697	39	0.07	56230	98.30	737	4	0.01	56942	99.55
658	98	0.17	54035	94.47	698	22	0.04	56252	98.34	738	7	0.01	56949	99.56
659	68	0.12	54103	94.58	699	31	0.05	56283	98.40	739	7	0.01	56956	99.57
660	85	0.15	54188	94.73	700	34	0.06	56317	98.45	740	3	0.01	56959	99.58
661	87	0.15	54275	94.88	701	28	0.05	56345	98.50	741	4	0.01	56963	99.58
662	81	0.14	54356	95.03	702	30	0.05	56375	98.56	742	17	0.03	56980	99.61
663	74	0.13	54430	95.16	703	32	0.06	56407	98.61	743	5	0.01	56985	99.62
664	76	0.13	54506	95.29	704	28	0.05	56435	98.66	744	6	0.01	56991	99.63
665	76	0.13	54582	95.42	705	29	0.05	56464	98.71	745	7	0.01	56998	99.65
666	64	0.11	54646	95.53	706	25	0.04	56489	98.76	746	6	0.01	57004	99.66
667	71	0.12	54717	95.66	707	18	0.03	56507	98.79	747	3	0.01	57007	99.66
668	73	0.13	54790	95.79	708	24	0.04	56531	98.83	748	13	0.02	57020	99.68
669	86	0.15	54876	95.94	709	17	0.03	56548	98.86	749	4	0.01	57024	99.69
670	51	0.09	54927	96.02	710	21	0.04	56569	98.90	750	7	0.01	57031	99.70
671	54	0.09	54981	96.12	711	21	0.04	56590	98.93	751	5	0.01	57036	99.71
672	65	0.11	55046	96.23	712	19	0.03	56609	98.97	752	10	0.02	57046	99.73
673	72	0.13	55118	96.36	713	22	0.04	56631	99.00	753	3	0.01	57049	99.73
674	73	0.13	55191	96.49	714	17	0.03	56648	99.03	754	3	0.01	57052	99.74
675	59	0.10	55250	96.59	715	21	0.04	56669	99.07	755	3	0.01	57055	99.74
676	58	0.10	55308	96.69	716	15	0.03	56684	99.10	756	1	0.00	57056	99.75

Table A-19. Writing 7 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
757	3	0.01	57059	99.75	807	1	0.00	57168	99.94					
758	4	0.01	57063	99.76	809	1	0.00	57169	99.94					
759	5	0.01	57068	99.77	811	1	0.00	57170	99.95					
760	6	0.01	57074	99.78	813	1	0.00	57171	99.95					
761	3	0.01	57077	99.78	815	1	0.00	57172	99.95					
762	9	0.02	57086	99.80	819	1	0.00	57173	99.95					
763	7	0.01	57093	99.81	821	1	0.00	57174	99.95					
765	3	0.01	57096	99.82	826	1	0.00	57175	99.95					
766	3	0.01	57099	99.82	831	3	0.01	57178	99.96					
767	5	0.01	57104	99.83	833	1	0.00	57179	99.96					
768	6	0.01	57110	99.84	835	3	0.01	57182	99.97					
769	3	0.01	57113	99.85	841	1	0.00	57183	99.97					
771	3	0.01	57116	99.85	845	1	0.00	57184	99.97					
772	1	0.00	57117	99.85	847	1	0.00	57185	99.97					
773	1	0.00	57118	99.85	850	1	0.00	57186	99.97					
774	1	0.00	57119	99.86	851	3	0.01	57189	99.98					
775	2	0.00	57121	99.86	854	2	0.00	57191	99.98					
776	2	0.00	57123	99.86	857	1	0.00	57192	99.98					
777	1	0.00	57124	99.87	868	1	0.00	57193	99.99					
778	2	0.00	57126	99.87	890	8	0.01	57201	100.00					
779	1	0.00	57127	99.87										
780	1	0.00	57128	99.87										
781	1	0.00	57129	99.87										
782	2	0.00	57131	99.88										
783	2	0.00	57133	99.88										
784	4	0.01	57137	99.89										
785	2	0.00	57139	99.89										
786	3	0.01	57142	99.90										
788	1	0.00	57143	99.90										
790	3	0.01	57146	99.90										
792	5	0.01	57151	99.91										
794	2	0.00	57153	99.92										
795	1	0.00	57154	99.92										
797	1	0.00	57155	99.92										
798	1	0.00	57156	99.92										
799	1	0.00	57157	99.92										
800	2	0.00	57159	99.93										
801	3	0.01	57162	99.93										
802	1	0.00	57163	99.93										
804	4	0.01	57167	99.94										

Figure A-19. Writing 7 Scale Score Distributions for the Total Population, Female, and Male Students





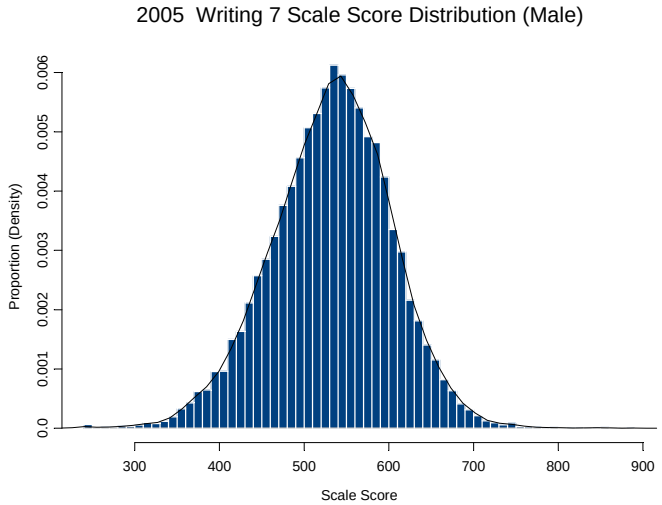


Table A-20. Math 8 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
310	342	0.60	342	0.60	354	5	0.01	503	0.88	394	18	0.03	967	1.70
312	2	0.00	344	0.60	355	11	0.02	514	0.90	395	21	0.04	988	1.74
313	1	0.00	345	0.61	356	12	0.02	526	0.92	396	20	0.04	1008	1.77
314	3	0.01	348	0.61	357	9	0.02	535	0.94	397	10	0.02	1018	1.79
315	6	0.01	354	0.62	358	7	0.01	542	0.95	398	22	0.04	1040	1.83
316	2	0.00	356	0.63	359	5	0.01	547	0.96	399	23	0.04	1063	1.87
317	4	0.01	360	0.63	360	6	0.01	553	0.97	400	23	0.04	1086	1.91
318	2	0.00	362	0.64	361	10	0.02	563	0.99	401	20	0.04	1106	1.94
319	6	0.01	368	0.65	362	13	0.02	576	1.01	402	20	0.04	1126	1.98
320	3	0.01	371	0.65	363	8	0.01	584	1.03	403	18	0.03	1144	2.01
321	3	0.01	374	0.66	364	6	0.01	590	1.04	404	26	0.05	1170	2.06
322	5	0.01	379	0.67	365	9	0.02	599	1.05	405	24	0.04	1194	2.10
323	5	0.01	384	0.67	366	10	0.02	609	1.07	406	26	0.05	1220	2.14
324	2	0.00	386	0.68	367	6	0.01	615	1.08	407	34	0.06	1254	2.20
325	1	0.00	387	0.68	368	6	0.01	621	1.09	408	20	0.04	1274	2.24
327	1	0.00	388	0.68	369	7	0.01	628	1.10	409	37	0.06	1311	2.30
328	5	0.01	393	0.69	370	11	0.02	639	1.12	410	33	0.06	1344	2.36
329	1	0.00	394	0.69	371	3	0.01	642	1.13	411	32	0.06	1376	2.42
330	8	0.01	402	0.71	372	13	0.02	655	1.15	412	24	0.04	1400	2.46
331	5	0.01	407	0.71	373	16	0.03	671	1.18	413	32	0.06	1432	2.52
333	8	0.01	415	0.73	374	12	0.02	683	1.20	414	29	0.05	1461	2.57
334	2	0.00	417	0.73	375	14	0.02	697	1.22	415	28	0.05	1489	2.62
335	3	0.01	420	0.74	376	12	0.02	709	1.25	416	33	0.06	1522	2.67
336	4	0.01	424	0.74	377	5	0.01	714	1.25	417	37	0.06	1559	2.74
337	2	0.00	426	0.75	378	12	0.02	726	1.28	418	30	0.05	1589	2.79
338	5	0.01	431	0.76	379	16	0.03	742	1.30	419	42	0.07	1631	2.86
339	10	0.02	441	0.77	380	6	0.01	748	1.31	420	33	0.06	1664	2.92
340	4	0.01	445	0.78	381	15	0.03	763	1.34	421	37	0.06	1701	2.99
341	2	0.00	447	0.79	382	16	0.03	779	1.37	422	46	0.08	1747	3.07
342	2	0.00	449	0.79	383	12	0.02	791	1.39	423	36	0.06	1783	3.13
343	4	0.01	453	0.80	384	10	0.02	801	1.41	424	38	0.07	1821	3.20
345	3	0.01	456	0.80	385	9	0.02	810	1.42	425	41	0.07	1862	3.27
346	8	0.01	464	0.82	386	21	0.04	831	1.46	426	36	0.06	1898	3.33
347	3	0.01	467	0.82	387	17	0.03	848	1.49	427	34	0.06	1932	3.39
348	8	0.01	475	0.83	388	15	0.03	863	1.52	428	34	0.06	1966	3.45
349	5	0.01	480	0.84	389	14	0.02	877	1.54	429	45	0.08	2011	3.53
350	7	0.01	487	0.86	390	15	0.03	892	1.57	430	38	0.07	2049	3.60
351	4	0.01	491	0.86	391	20	0.04	912	1.60	431	32	0.06	2081	3.66
352	5	0.01	496	0.87	392	22	0.04	934	1.64	432	47	0.08	2128	3.74
353	2	0.00	498	0.87	393	15	0.03	949	1.67	433	42	0.07	2170	3.81

Table A-20. Math 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
434	52	0.09	2222	3.90	474	104	0.18	5178	9.10	514	218	0.38	11772	20.68
435	47	0.08	2269	3.99	475	117	0.21	5295	9.30	515	247	0.43	12019	21.11
436	48	0.08	2317	4.07	476	105	0.18	5400	9.49	516	228	0.40	12247	21.51
437	45	0.08	2362	4.15	477	128	0.22	5528	9.71	517	269	0.47	12516	21.98
438	55	0.10	2417	4.25	478	103	0.18	5631	9.89	518	230	0.40	12746	22.39
439	57	0.10	2474	4.35	479	93	0.16	5724	10.05	519	237	0.42	12983	22.81
440	54	0.09	2528	4.44	480	126	0.22	5850	10.28	520	249	0.44	13232	23.24
441	66	0.12	2594	4.56	481	128	0.22	5978	10.50	521	259	0.45	13491	23.70
442	67	0.12	2661	4.67	482	126	0.22	6104	10.72	522	244	0.43	13735	24.13
443	62	0.11	2723	4.78	483	133	0.23	6237	10.96	523	259	0.45	13994	24.58
444	47	0.08	2770	4.87	484	128	0.22	6365	11.18	524	244	0.43	14238	25.01
445	55	0.10	2825	4.96	485	118	0.21	6483	11.39	525	250	0.44	14488	25.45
446	52	0.09	2877	5.05	486	152	0.27	6635	11.65	526	262	0.46	14750	25.91
447	67	0.12	2944	5.17	487	153	0.27	6788	11.92	527	285	0.50	15035	26.41
448	63	0.11	3007	5.28	488	150	0.26	6938	12.19	528	280	0.49	15315	26.90
449	63	0.11	3070	5.39	489	160	0.28	7098	12.47	529	262	0.46	15577	27.36
450	67	0.12	3137	5.51	490	170	0.30	7268	12.77	530	270	0.47	15847	27.84
451	70	0.12	3207	5.63	491	156	0.27	7424	13.04	531	289	0.51	16136	28.34
452	63	0.11	3270	5.74	492	144	0.25	7568	13.29	532	254	0.45	16390	28.79
453	69	0.12	3339	5.87	493	170	0.30	7738	13.59	533	292	0.51	16682	29.30
454	78	0.14	3417	6.00	494	159	0.28	7897	13.87	534	306	0.54	16988	29.84
455	71	0.12	3488	6.13	495	167	0.29	8064	14.16	535	305	0.54	17293	30.38
456	59	0.10	3547	6.23	496	151	0.27	8215	14.43	536	292	0.51	17585	30.89
457	72	0.13	3619	6.36	497	183	0.32	8398	14.75	537	319	0.56	17904	31.45
458	71	0.12	3690	6.48	498	161	0.28	8559	15.03	538	292	0.51	18196	31.96
459	71	0.12	3761	6.61	499	152	0.27	8711	15.30	539	300	0.53	18496	32.49
460	88	0.15	3849	6.76	500	185	0.32	8896	15.63	540	337	0.59	18833	33.08
461	78	0.14	3927	6.90	501	196	0.34	9092	15.97	541	306	0.54	19139	33.62
462	95	0.17	4022	7.06	502	206	0.36	9298	16.33	542	311	0.55	19450	34.16
463	72	0.13	4094	7.19	503	198	0.35	9496	16.68	543	337	0.59	19787	34.76
464	98	0.17	4192	7.36	504	197	0.35	9693	17.03	544	324	0.57	20111	35.33
465	91	0.16	4283	7.52	505	182	0.32	9875	17.35	545	353	0.62	20464	35.95
466	98	0.17	4381	7.70	506	202	0.35	10077	17.70	546	319	0.56	20783	36.51
467	87	0.15	4468	7.85	507	177	0.31	10254	18.01	547	354	0.62	21137	37.13
468	95	0.17	4563	8.02	508	223	0.39	10477	18.40	548	333	0.58	21470	37.71
469	89	0.16	4652	8.17	509	197	0.35	10674	18.75	549	344	0.60	21814	38.32
470	117	0.21	4769	8.38	510	208	0.37	10882	19.11	550	327	0.57	22141	38.89
471	100	0.18	4869	8.55	511	223	0.39	11105	19.51	551	328	0.58	22469	39.47
472	96	0.17	4965	8.72	512	219	0.38	11324	19.89	552	328	0.58	22797	40.04
473	109	0.19	5074	8.91	513	230	0.40	11554	20.30	553	340	0.60	23137	40.64

Table A-20. Math 8 Scale Score Distribution (Continued)

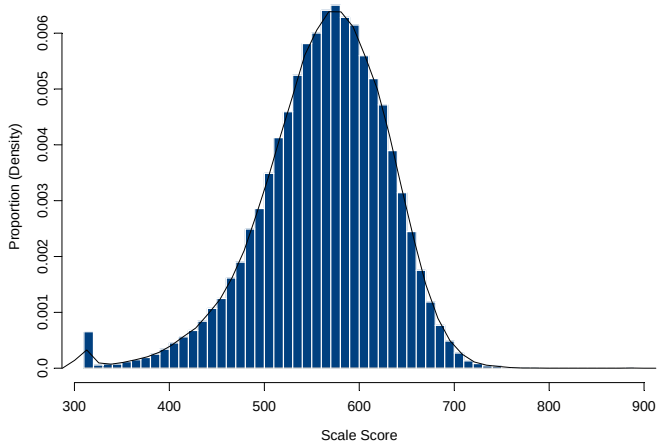
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
554	328	0.58	23465	41.22	594	343	0.60	37953	66.67	634	221	0.39	49712	87.32
555	351	0.62	23816	41.83	595	330	0.58	38283	67.25	635	246	0.43	49958	87.75
556	357	0.63	24173	42.46	596	340	0.60	38623	67.84	636	210	0.37	50168	88.12
557	318	0.56	24491	43.02	597	352	0.62	38975	68.46	637	220	0.39	50388	88.51
558	386	0.68	24877	43.70	598	371	0.65	39346	69.11	638	222	0.39	50610	88.90
559	335	0.59	25212	44.29	599	326	0.57	39672	69.69	639	199	0.35	50809	89.25
560	346	0.61	25558	44.89	600	310	0.54	39982	70.23	640	213	0.37	51022	89.62
561	395	0.69	25953	45.59	601	323	0.57	40305	70.80	641	187	0.33	51209	89.95
562	343	0.60	26296	46.19	602	309	0.54	40614	71.34	642	192	0.34	51401	90.29
563	365	0.64	26661	46.83	603	323	0.57	40937	71.91	643	193	0.34	51594	90.63
564	352	0.62	27013	47.45	604	333	0.58	41270	72.49	644	162	0.28	51756	90.91
565	344	0.60	27357	48.05	605	315	0.55	41585	73.05	645	192	0.34	51948	91.25
566	342	0.60	27699	48.65	606	343	0.60	41928	73.65	646	156	0.27	52104	91.52
567	363	0.64	28062	49.29	607	304	0.53	42232	74.18	647	174	0.31	52278	91.83
568	410	0.72	28472	50.01	608	322	0.57	42554	74.75	648	171	0.30	52449	92.13
569	367	0.64	28839	50.66	609	311	0.55	42865	75.29	649	179	0.31	52628	92.44
570	367	0.64	29206	51.30	610	302	0.53	43167	75.82	650	182	0.32	52810	92.76
571	388	0.68	29594	51.98	611	318	0.56	43485	76.38	651	169	0.30	52979	93.06
572	360	0.63	29954	52.62	612	298	0.52	43783	76.91	652	154	0.27	53133	93.33
573	362	0.64	30316	53.25	613	304	0.53	44087	77.44	653	135	0.24	53268	93.57
574	392	0.69	30708	53.94	614	292	0.51	44379	77.95	654	158	0.28	53426	93.85
575	374	0.66	31082	54.60	615	309	0.54	44688	78.50	655	153	0.27	53579	94.11
576	349	0.61	31431	55.21	616	283	0.50	44971	78.99	656	110	0.19	53689	94.31
577	381	0.67	31812	55.88	617	280	0.49	45251	79.49	657	147	0.26	53836	94.57
578	350	0.61	32162	56.49	618	301	0.53	45552	80.01	658	125	0.22	53961	94.78
579	393	0.69	32555	57.18	619	302	0.53	45854	80.54	659	121	0.21	54082	95.00
580	352	0.62	32907	57.80	620	265	0.47	46119	81.01	660	121	0.21	54203	95.21
581	333	0.58	33240	58.39	621	292	0.51	46411	81.52	661	110	0.19	54313	95.40
582	381	0.67	33621	59.06	622	260	0.46	46671	81.98	662	115	0.20	54428	95.61
583	354	0.62	33975	59.68	623	265	0.47	46936	82.45	663	122	0.21	54550	95.82
584	356	0.63	34331	60.30	624	319	0.56	47255	83.01	664	112	0.20	54662	96.02
585	385	0.68	34716	60.98	625	237	0.42	47492	83.42	665	101	0.18	54763	96.19
586	335	0.59	35051	61.57	626	283	0.50	47775	83.92	666	96	0.17	54859	96.36
587	373	0.66	35424	62.22	627	253	0.44	48028	84.36	667	82	0.14	54941	96.51
588	364	0.64	35788	62.86	628	264	0.46	48292	84.83	668	87	0.15	55028	96.66
589	350	0.61	36138	63.48	629	272	0.48	48564	85.30	669	89	0.16	55117	96.82
590	345	0.61	36483	64.08	630	240	0.42	48804	85.73	670	84	0.15	55201	96.96
591	360	0.63	36843	64.72	631	227	0.40	49031	86.13	671	83	0.15	55284	97.11
592	395	0.69	37238	65.41	632	238	0.42	49269	86.54	672	69	0.12	55353	97.23
593	372	0.65	37610	66.06	633	222	0.39	49491	86.93	673	87	0.15	55440	97.38

Table A-20. Math 8 Scale Score Distribution (Continued)

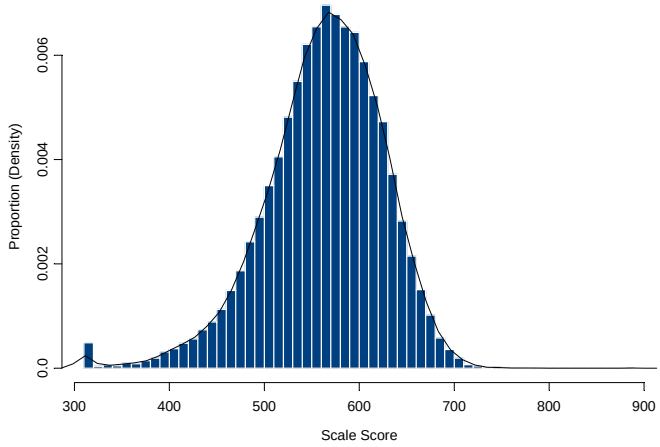
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
674	76	0.13	55516	97.52	714	6	0.01	56778	99.73	762	2	0.00	56922	99.99
675	59	0.10	55575	97.62	715	9	0.02	56787	99.75	765	1	0.00	56923	99.99
676	65	0.11	55640	97.73	716	9	0.02	56796	99.76	773	1	0.00	56924	99.99
677	55	0.10	55695	97.83	717	8	0.01	56804	99.78	781	1	0.00	56925	99.99
678	54	0.09	55749	97.93	718	6	0.01	56810	99.79	783	1	0.00	56926	99.99
679	51	0.09	55800	98.02	719	8	0.01	56818	99.80	786	1	0.00	56927	99.99
680	77	0.14	55877	98.15	720	3	0.01	56821	99.81	890	3	0.01	56930	100.00
681	62	0.11	55939	98.26	721	5	0.01	56826	99.82					
682	45	0.08	55984	98.34	722	7	0.01	56833	99.83					
683	39	0.07	56023	98.41	723	10	0.02	56843	99.85					
684	53	0.09	56076	98.50	724	3	0.01	56846	99.85					
685	46	0.08	56122	98.58	725	5	0.01	56851	99.86					
686	44	0.08	56166	98.66	726	5	0.01	56856	99.87					
687	44	0.08	56210	98.74	727	5	0.01	56861	99.88					
688	44	0.08	56254	98.81	728	4	0.01	56865	99.89					
689	36	0.06	56290	98.88	729	2	0.00	56867	99.89					
690	25	0.04	56315	98.92	730	2	0.00	56869	99.89					
691	28	0.05	56343	98.97	731	2	0.00	56871	99.90					
692	27	0.05	56370	99.02	732	7	0.01	56878	99.91					
693	25	0.04	56395	99.06	734	4	0.01	56882	99.92					
694	25	0.04	56420	99.10	735	3	0.01	56885	99.92					
695	26	0.05	56446	99.15	736	2	0.00	56887	99.92					
696	28	0.05	56474	99.20	737	1	0.00	56888	99.93					
697	28	0.05	56502	99.25	738	1	0.00	56889	99.93					
698	26	0.05	56528	99.29	739	2	0.00	56891	99.93					
699	28	0.05	56556	99.34	740	2	0.00	56893	99.94					
700	36	0.06	56592	99.41	741	2	0.00	56895	99.94					
701	25	0.04	56617	99.45	742	4	0.01	56899	99.95					
702	10	0.02	56627	99.47	743	1	0.00	56900	99.95					
703	19	0.03	56646	99.50	745	7	0.01	56907	99.96					
704	18	0.03	56664	99.53	746	1	0.00	56908	99.96					
705	12	0.02	56676	99.55	747	1	0.00	56909	99.96					
706	12	0.02	56688	99.57	748	1	0.00	56910	99.96					
707	19	0.03	56707	99.61	749	4	0.01	56914	99.97					
708	15	0.03	56722	99.63	750	1	0.00	56915	99.97					
709	14	0.02	56736	99.66	751	1	0.00	56916	99.98					
710	11	0.02	56747	99.68	753	1	0.00	56917	99.98					
711	10	0.02	56757	99.70	754	1	0.00	56918	99.98					
712	7	0.01	56764	99.71	758	1	0.00	56919	99.98					
713	8	0.01	56772	99.72	759	1	0.00	56920	99.98					

Figure A-20. Math 8 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Mathematics 8 Scale Score Distribution (Total)



2005 Mathematics 8 Scale Score Distribution (Female)



2005 Mathematics 8 Scale Score Distribution (Male)

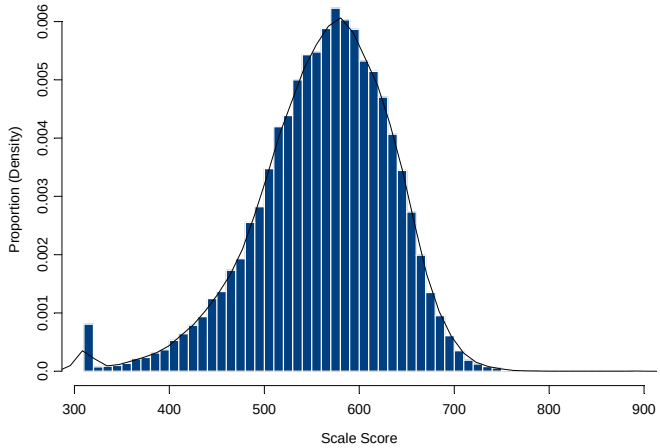


Table A-21. Reading 8 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
330	219	0.39	219	0.39	384	2	0.00	285	0.50	427	4	0.01	415	0.73
331	3	0.01	222	0.39	385	5	0.01	290	0.51	428	7	0.01	422	0.74
332	1	0.00	223	0.39	386	1	0.00	291	0.51	429	4	0.01	426	0.75
333	3	0.01	226	0.40	388	2	0.00	293	0.52	430	2	0.00	428	0.75
334	1	0.00	227	0.40	389	3	0.01	296	0.52	431	6	0.01	434	0.76
335	1	0.00	228	0.40	390	1	0.00	297	0.52	432	2	0.00	436	0.77
336	1	0.00	229	0.40	391	2	0.00	299	0.53	433	3	0.01	439	0.77
338	2	0.00	231	0.41	393	1	0.00	300	0.53	434	4	0.01	443	0.78
342	1	0.00	232	0.41	395	2	0.00	302	0.53	435	5	0.01	448	0.79
344	1	0.00	233	0.41	396	4	0.01	306	0.54	436	7	0.01	455	0.80
346	1	0.00	234	0.41	397	4	0.01	310	0.55	437	1	0.00	456	0.80
347	1	0.00	235	0.41	398	2	0.00	312	0.55	438	6	0.01	462	0.81
348	1	0.00	236	0.42	399	4	0.01	316	0.56	439	3	0.01	465	0.82
349	1	0.00	237	0.42	400	4	0.01	320	0.56	440	7	0.01	472	0.83
352	1	0.00	238	0.42	401	1	0.00	321	0.56	441	4	0.01	476	0.84
353	1	0.00	239	0.42	402	1	0.00	322	0.57	442	5	0.01	481	0.85
354	1	0.00	240	0.42	403	1	0.00	323	0.57	443	8	0.01	489	0.86
356	3	0.01	243	0.43	404	2	0.00	325	0.57	444	8	0.01	497	0.87
357	1	0.00	244	0.43	405	1	0.00	326	0.57	445	8	0.01	505	0.89
358	2	0.00	246	0.43	406	3	0.01	329	0.58	446	4	0.01	509	0.90
359	2	0.00	248	0.44	407	5	0.01	334	0.59	447	6	0.01	515	0.91
362	1	0.00	249	0.44	408	3	0.01	337	0.59	448	5	0.01	520	0.91
363	1	0.00	250	0.44	409	1	0.00	338	0.59	449	5	0.01	525	0.92
366	1	0.00	251	0.44	410	8	0.01	346	0.61	450	10	0.02	535	0.94
367	2	0.00	253	0.45	411	5	0.01	351	0.62	451	7	0.01	542	0.95
368	1	0.00	254	0.45	412	3	0.01	354	0.62	452	10	0.02	552	0.97
369	2	0.00	256	0.45	413	5	0.01	359	0.63	453	6	0.01	558	0.98
370	2	0.00	258	0.45	414	5	0.01	364	0.64	454	5	0.01	563	0.99
372	2	0.00	260	0.46	415	4	0.01	368	0.65	455	10	0.02	573	1.01
373	1	0.00	261	0.46	416	6	0.01	374	0.66	456	7	0.01	580	1.02
374	1	0.00	262	0.46	417	2	0.00	376	0.66	457	13	0.02	593	1.04
375	2	0.00	264	0.46	418	1	0.00	377	0.66	458	10	0.02	603	1.06
376	3	0.01	267	0.47	419	2	0.00	379	0.67	459	5	0.01	608	1.07
377	1	0.00	268	0.47	420	5	0.01	384	0.68	460	11	0.02	619	1.09
378	4	0.01	272	0.48	421	4	0.01	388	0.68	461	12	0.02	631	1.11
379	1	0.00	273	0.48	422	3	0.01	391	0.69	462	10	0.02	641	1.13
380	3	0.01	276	0.49	423	3	0.01	394	0.69	463	9	0.02	650	1.14
381	1	0.00	277	0.49	424	8	0.01	402	0.71	464	9	0.02	659	1.16
382	5	0.01	282	0.50	425	5	0.01	407	0.72	465	11	0.02	670	1.18
383	1	0.00	283	0.50	426	4	0.01	411	0.72	466	6	0.01	676	1.19

Table A-21. Reading 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
467	11	0.02	687	1.21	507	24	0.04	1370	2.41	547	72	0.13	3464	6.09
468	10	0.02	697	1.23	508	22	0.04	1392	2.45	548	95	0.17	3559	6.26
469	10	0.02	707	1.24	509	39	0.07	1431	2.52	549	81	0.14	3640	6.40
470	13	0.02	720	1.27	510	36	0.06	1467	2.58	550	79	0.14	3719	6.54
471	8	0.01	728	1.28	511	32	0.06	1499	2.64	551	82	0.14	3801	6.69
472	14	0.02	742	1.31	512	38	0.07	1537	2.70	552	74	0.13	3875	6.82
473	12	0.02	754	1.33	513	41	0.07	1578	2.78	553	68	0.12	3943	6.94
474	10	0.02	764	1.34	514	30	0.05	1608	2.83	554	99	0.17	4042	7.11
475	11	0.02	775	1.36	515	31	0.05	1639	2.88	555	90	0.16	4132	7.27
476	11	0.02	786	1.38	516	34	0.06	1673	2.94	556	123	0.22	4255	7.48
477	20	0.04	806	1.42	517	34	0.06	1707	3.00	557	99	0.17	4354	7.66
478	8	0.01	814	1.43	518	50	0.09	1757	3.09	558	104	0.18	4458	7.84
479	13	0.02	827	1.45	519	41	0.07	1798	3.16	559	109	0.19	4567	8.03
480	9	0.02	836	1.47	520	32	0.06	1830	3.22	560	108	0.19	4675	8.22
481	6	0.01	842	1.48	521	29	0.05	1859	3.27	561	106	0.19	4781	8.41
482	12	0.02	854	1.50	522	42	0.07	1901	3.34	562	99	0.17	4880	8.58
483	12	0.02	866	1.52	523	31	0.05	1932	3.40	563	124	0.22	5004	8.80
484	12	0.02	878	1.54	524	44	0.08	1976	3.48	564	125	0.22	5129	9.02
485	14	0.02	892	1.57	525	47	0.08	2023	3.56	565	93	0.16	5222	9.19
486	16	0.03	908	1.60	526	60	0.11	2083	3.66	566	122	0.21	5344	9.40
487	10	0.02	918	1.61	527	48	0.08	2131	3.75	567	128	0.23	5472	9.63
488	17	0.03	935	1.64	528	50	0.09	2181	3.84	568	127	0.22	5599	9.85
489	13	0.02	948	1.67	529	46	0.08	2227	3.92	569	125	0.22	5724	10.07
490	13	0.02	961	1.69	530	53	0.09	2280	4.01	570	117	0.21	5841	10.27
491	15	0.03	976	1.72	531	59	0.10	2339	4.11	571	136	0.24	5977	10.51
492	23	0.04	999	1.76	532	58	0.10	2397	4.22	572	150	0.26	6127	10.78
493	17	0.03	1016	1.79	533	63	0.11	2460	4.33	573	158	0.28	6285	11.06
494	17	0.03	1033	1.82	534	59	0.10	2519	4.43	574	144	0.25	6429	11.31
495	25	0.04	1058	1.86	535	61	0.11	2580	4.54	575	139	0.24	6568	11.55
496	18	0.03	1076	1.89	536	59	0.10	2639	4.64	576	121	0.21	6689	11.77
497	24	0.04	1100	1.93	537	71	0.12	2710	4.77	577	172	0.30	6861	12.07
498	34	0.06	1134	1.99	538	66	0.12	2776	4.88	578	143	0.25	7004	12.32
499	32	0.06	1166	2.05	539	76	0.13	2852	5.02	579	178	0.31	7182	12.63
500	24	0.04	1190	2.09	540	72	0.13	2924	5.14	580	168	0.30	7350	12.93
501	18	0.03	1208	2.12	541	61	0.11	2985	5.25	581	171	0.30	7521	13.23
502	26	0.05	1234	2.17	542	81	0.14	3066	5.39	582	147	0.26	7668	13.49
503	25	0.04	1259	2.21	543	84	0.15	3150	5.54	583	130	0.23	7798	13.72
504	29	0.05	1288	2.27	544	82	0.14	3232	5.69	584	149	0.26	7947	13.98
505	31	0.05	1319	2.32	545	75	0.13	3307	5.82	585	167	0.29	8114	14.27
506	27	0.05	1346	2.37	546	85	0.15	3392	5.97	586	189	0.33	8303	14.61

Table A-21. Reading 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
587	197	0.35	8500	14.95	627	315	0.55	18259	32.12	667	372	0.65	32859	57.80
588	207	0.36	8707	15.32	628	333	0.59	18592	32.70	668	382	0.67	33241	58.47
589	176	0.31	8883	15.63	629	307	0.54	18899	33.24	669	390	0.69	33631	59.16
590	176	0.31	9059	15.94	630	316	0.56	19215	33.80	670	392	0.69	34023	59.85
591	182	0.32	9241	16.26	631	338	0.59	19553	34.39	671	389	0.68	34412	60.53
592	197	0.35	9438	16.60	632	353	0.62	19906	35.02	672	366	0.64	34778	61.18
593	185	0.33	9623	16.93	633	327	0.58	20233	35.59	673	404	0.71	35182	61.89
594	181	0.32	9804	17.25	634	303	0.53	20536	36.12	674	409	0.72	35591	62.61
595	186	0.33	9990	17.57	635	344	0.61	20880	36.73	675	383	0.67	35974	63.28
596	204	0.36	10194	17.93	636	345	0.61	21225	37.34	676	382	0.67	36356	63.95
597	210	0.37	10404	18.30	637	356	0.63	21581	37.96	677	378	0.66	36734	64.62
598	195	0.34	10599	18.64	638	336	0.59	21917	38.55	678	384	0.68	37118	65.29
599	219	0.39	10818	19.03	639	332	0.58	22249	39.14	679	361	0.64	37479	65.93
600	257	0.45	11075	19.48	640	326	0.57	22575	39.71	680	388	0.68	37867	66.61
601	238	0.42	11313	19.90	641	367	0.65	22942	40.36	681	378	0.66	38245	67.27
602	232	0.41	11545	20.31	642	367	0.65	23309	41.00	682	384	0.68	38629	67.95
603	228	0.40	11773	20.71	643	366	0.64	23675	41.65	683	374	0.66	39003	68.61
604	227	0.40	12000	21.11	644	359	0.63	24034	42.28	684	368	0.65	39371	69.26
605	250	0.44	12250	21.55	645	376	0.66	24410	42.94	685	384	0.68	39755	69.93
606	234	0.41	12484	21.96	646	381	0.67	24791	43.61	686	344	0.61	40099	70.54
607	238	0.42	12722	22.38	647	373	0.66	25164	44.26	687	359	0.63	40458	71.17
608	241	0.42	12963	22.80	648	358	0.63	25522	44.89	688	365	0.64	40823	71.81
609	250	0.44	13213	23.24	649	371	0.65	25893	45.55	689	380	0.67	41203	72.48
610	239	0.42	13452	23.66	650	420	0.74	26313	46.29	690	366	0.64	41569	73.12
611	261	0.46	13713	24.12	651	387	0.68	26700	46.97	691	361	0.64	41930	73.76
612	236	0.42	13949	24.54	652	375	0.66	27075	47.63	692	344	0.61	42274	74.36
613	281	0.49	14230	25.03	653	393	0.69	27468	48.32	693	383	0.67	42657	75.04
614	293	0.52	14523	25.55	654	364	0.64	27832	48.96	694	356	0.63	43013	75.66
615	257	0.45	14780	26.00	655	386	0.68	28218	49.64	695	374	0.66	43387	76.32
616	278	0.49	15058	26.49	656	393	0.69	28611	50.33	696	330	0.58	43717	76.90
617	262	0.46	15320	26.95	657	375	0.66	28986	50.99	697	358	0.63	44075	77.53
618	273	0.48	15593	27.43	658	365	0.64	29351	51.63	698	322	0.57	44397	78.10
619	289	0.51	15882	27.94	659	381	0.67	29732	52.30	699	360	0.63	44757	78.73
620	283	0.50	16165	28.43	660	368	0.65	30100	52.95	700	330	0.58	45087	79.31
621	284	0.50	16449	28.93	661	374	0.66	30474	53.61	701	325	0.57	45412	79.88
622	314	0.55	16763	29.49	662	396	0.70	30870	54.30	702	320	0.56	45732	80.44
623	313	0.55	17076	30.04	663	439	0.77	31309	55.07	703	291	0.51	46023	80.96
624	276	0.49	17352	30.52	664	403	0.71	31712	55.78	704	310	0.55	46333	81.50
625	313	0.55	17665	31.07	665	379	0.67	32091	56.45	705	303	0.53	46636	82.03
626	279	0.49	17944	31.56	666	396	0.70	32487	57.15	706	292	0.51	46928	82.55

Table A-21. Reading 8 Scale Score Distribution (Continued)

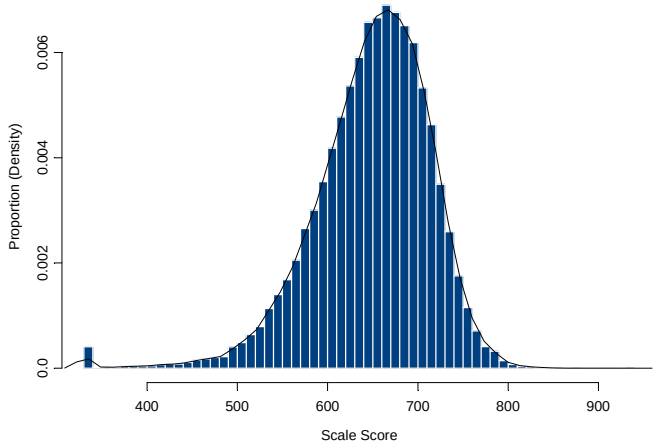
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
707	309	0.54	47237	83.09	747	88	0.15	54972	96.70	787	17	0.03	56640	99.63
708	297	0.52	47534	83.61	748	77	0.14	55049	96.83	788	14	0.02	56654	99.66
709	297	0.52	47831	84.14	749	70	0.12	55119	96.96	789	15	0.03	56669	99.68
710	284	0.50	48115	84.64	750	88	0.15	55207	97.11	790	11	0.02	56680	99.70
711	278	0.49	48393	85.13	751	70	0.12	55277	97.23	791	12	0.02	56692	99.72
712	290	0.51	48683	85.64	752	73	0.13	55350	97.36	792	9	0.02	56701	99.74
713	267	0.47	48950	86.11	753	81	0.14	55431	97.51	793	15	0.03	56716	99.77
714	295	0.52	49245	86.62	754	69	0.12	55500	97.63	794	8	0.01	56724	99.78
715	252	0.44	49497	87.07	755	80	0.14	55580	97.77	795	5	0.01	56729	99.79
716	242	0.43	49739	87.49	756	48	0.08	55628	97.85	796	9	0.02	56738	99.80
717	279	0.49	50018	87.98	757	63	0.11	55691	97.96	797	10	0.02	56748	99.82
718	256	0.45	50274	88.43	758	53	0.09	55744	98.06	798	5	0.01	56753	99.83
719	225	0.40	50499	88.83	759	46	0.08	55790	98.14	799	3	0.01	56756	99.84
720	247	0.43	50746	89.26	760	72	0.13	55862	98.26	800	4	0.01	56760	99.84
721	243	0.43	50989	89.69	761	45	0.08	55907	98.34	801	3	0.01	56763	99.85
722	223	0.39	51212	90.08	762	53	0.09	55960	98.44	802	7	0.01	56770	99.86
723	214	0.38	51426	90.46	763	35	0.06	55995	98.50	803	5	0.01	56775	99.87
724	204	0.36	51630	90.82	764	47	0.08	56042	98.58	804	3	0.01	56778	99.88
725	185	0.33	51815	91.14	765	29	0.05	56071	98.63	806	2	0.00	56780	99.88
726	205	0.36	52020	91.51	766	41	0.07	56112	98.70	807	7	0.01	56787	99.89
727	197	0.35	52217	91.85	767	37	0.07	56149	98.77	808	4	0.01	56791	99.90
728	156	0.27	52373	92.13	768	40	0.07	56189	98.84	809	5	0.01	56796	99.91
729	183	0.32	52556	92.45	769	39	0.07	56228	98.91	810	3	0.01	56799	99.91
730	179	0.31	52735	92.76	770	37	0.07	56265	98.97	811	3	0.01	56802	99.92
731	187	0.33	52922	93.09	771	29	0.05	56294	99.02	812	5	0.01	56807	99.93
732	152	0.27	53074	93.36	772	28	0.05	56322	99.07	813	2	0.00	56809	99.93
733	158	0.28	53232	93.64	773	28	0.05	56350	99.12	814	2	0.00	56811	99.93
734	144	0.25	53376	93.89	774	20	0.04	56370	99.16	815	2	0.00	56813	99.94
735	147	0.26	53523	94.15	775	26	0.05	56396	99.20	816	1	0.00	56814	99.94
736	135	0.24	53658	94.39	776	19	0.03	56415	99.24	818	2	0.00	56816	99.94
737	151	0.27	53809	94.65	777	24	0.04	56439	99.28	819	2	0.00	56818	99.95
738	143	0.25	53952	94.90	778	21	0.04	56460	99.32	820	3	0.01	56821	99.95
739	142	0.25	54094	95.15	779	19	0.03	56479	99.35	821	1	0.00	56822	99.95
740	116	0.20	54210	95.36	780	19	0.03	56498	99.38	823	1	0.00	56823	99.95
741	127	0.22	54337	95.58	781	28	0.05	56526	99.43	824	2	0.00	56825	99.96
742	124	0.22	54461	95.80	782	19	0.03	56545	99.47	825	4	0.01	56829	99.96
743	96	0.17	54557	95.97	783	17	0.03	56562	99.50	826	1	0.00	56830	99.97
744	109	0.19	54666	96.16	784	21	0.04	56583	99.53	827	1	0.00	56831	99.97
745	113	0.20	54779	96.36	785	18	0.03	56601	99.56	828	4	0.01	56835	99.98
746	105	0.18	54884	96.54	786	22	0.04	56623	99.60	829	1	0.00	56836	99.98

Table A-21. Reading 8 Scale Score Distribution (Continued)

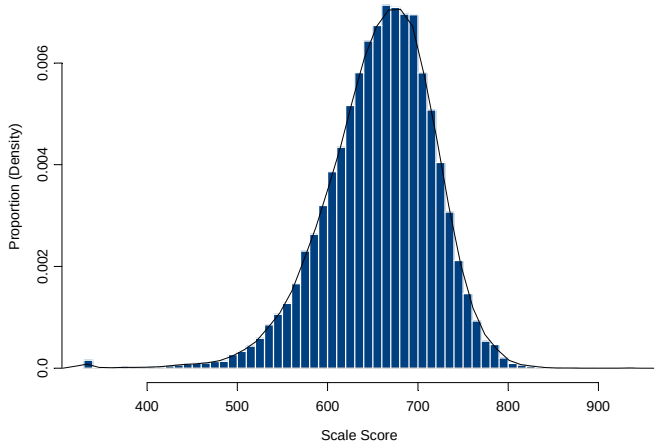
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
831	1	0.00	56837	99.98										
834	1	0.00	56838	99.98										
835	2	0.00	56840	99.98										
836	1	0.00	56841	99.99										
842	1	0.00	56842	99.99										
843	1	0.00	56843	99.99										
846	2	0.00	56845	99.99										
848	1	0.00	56846	99.99										
851	1	0.00	56847	100.00										
871	1	0.00	56848	100.00										
938	1	0.00	56849	100.00										

Figure A-21. Reading 8 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 8 Scale Score Distribution (Total)



2005 Reading 8 Scale Score Distribution (Female)



2005 Reading 8 Scale Score Distribution (Male)

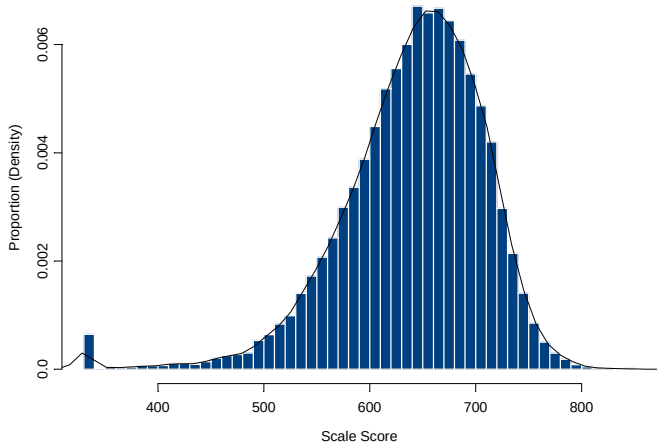


Table A-22. Writing 8 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
250	46	0.08	46	0.08	319	4	0.01	117	0.21	359	15	0.03	349	0.61
251	1	0.00	47	0.08	320	1	0.00	118	0.21	360	13	0.02	362	0.64
253	1	0.00	48	0.08	321	4	0.01	122	0.21	361	12	0.02	374	0.66
254	2	0.00	50	0.09	322	3	0.01	125	0.22	362	10	0.02	384	0.68
258	1	0.00	51	0.09	323	4	0.01	129	0.23	363	22	0.04	406	0.71
260	1	0.00	52	0.09	324	5	0.01	134	0.24	364	16	0.03	422	0.74
261	1	0.00	53	0.09	325	3	0.01	137	0.24	365	16	0.03	438	0.77
266	1	0.00	54	0.10	326	4	0.01	141	0.25	366	11	0.02	449	0.79
268	1	0.00	55	0.10	327	2	0.00	143	0.25	367	22	0.04	471	0.83
276	1	0.00	56	0.10	328	5	0.01	148	0.26	368	12	0.02	483	0.85
277	1	0.00	57	0.10	329	1	0.00	149	0.26	369	17	0.03	500	0.88
278	1	0.00	58	0.10	330	2	0.00	151	0.27	370	11	0.02	511	0.90
279	2	0.00	60	0.11	331	3	0.01	154	0.27	371	25	0.04	536	0.94
281	1	0.00	61	0.11	332	4	0.01	158	0.28	372	16	0.03	552	0.97
283	2	0.00	63	0.11	333	5	0.01	163	0.29	373	14	0.02	566	1.00
284	1	0.00	64	0.11	334	3	0.01	166	0.29	374	18	0.03	584	1.03
285	2	0.00	66	0.12	335	8	0.01	174	0.31	375	18	0.03	602	1.06
287	1	0.00	67	0.12	336	6	0.01	180	0.32	376	23	0.04	625	1.10
288	1	0.00	68	0.12	337	3	0.01	183	0.32	377	27	0.05	652	1.15
289	1	0.00	69	0.12	338	4	0.01	187	0.33	378	17	0.03	669	1.18
291	2	0.00	71	0.12	339	5	0.01	192	0.34	379	17	0.03	686	1.21
293	1	0.00	72	0.13	340	4	0.01	196	0.34	380	21	0.04	707	1.24
294	1	0.00	73	0.13	341	2	0.00	198	0.35	381	18	0.03	725	1.28
295	1	0.00	74	0.13	342	5	0.01	203	0.36	382	20	0.04	745	1.31
296	2	0.00	76	0.13	343	6	0.01	209	0.37	383	21	0.04	766	1.35
297	4	0.01	80	0.14	344	8	0.01	217	0.38	384	31	0.05	797	1.40
298	1	0.00	81	0.14	345	14	0.02	231	0.41	385	28	0.05	825	1.45
303	3	0.01	84	0.15	346	5	0.01	236	0.42	386	20	0.04	845	1.49
304	3	0.01	87	0.15	347	8	0.01	244	0.43	387	27	0.05	872	1.53
305	1	0.00	88	0.15	348	11	0.02	255	0.45	388	15	0.03	887	1.56
306	4	0.01	92	0.16	349	6	0.01	261	0.46	389	26	0.05	913	1.61
307	3	0.01	95	0.17	350	3	0.01	264	0.46	390	14	0.02	927	1.63
309	2	0.00	97	0.17	351	7	0.01	271	0.48	391	17	0.03	944	1.66
311	1	0.00	98	0.17	352	13	0.02	284	0.50	392	23	0.04	967	1.70
312	2	0.00	100	0.18	353	6	0.01	290	0.51	393	27	0.05	994	1.75
313	2	0.00	102	0.18	354	9	0.02	299	0.53	394	17	0.03	1011	1.78
314	2	0.00	104	0.18	355	8	0.01	307	0.54	395	28	0.05	1039	1.83
315	5	0.01	109	0.19	356	10	0.02	317	0.56	396	27	0.05	1066	1.88
316	3	0.01	112	0.20	357	5	0.01	322	0.57	397	18	0.03	1084	1.91
317	1	0.00	113	0.20	358	12	0.02	334	0.59	398	31	0.05	1115	1.96

Table A-22. Writing 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
399	24	0.04	1139	2.00	439	73	0.13	3229	5.68	479	171	0.30	7967	14.02
400	28	0.05	1167	2.05	440	96	0.17	3325	5.85	480	158	0.28	8125	14.30
401	42	0.07	1209	2.13	441	71	0.12	3396	5.98	481	162	0.29	8287	14.58
402	43	0.08	1252	2.20	442	84	0.15	3480	6.12	482	156	0.27	8443	14.86
403	23	0.04	1275	2.24	443	73	0.13	3553	6.25	483	151	0.27	8594	15.12
404	31	0.05	1306	2.30	444	71	0.12	3624	6.38	484	178	0.31	8772	15.44
405	41	0.07	1347	2.37	445	84	0.15	3708	6.53	485	197	0.35	8969	15.78
406	39	0.07	1386	2.44	446	99	0.17	3807	6.70	486	156	0.27	9125	16.06
407	41	0.07	1427	2.51	447	81	0.14	3888	6.84	487	167	0.29	9292	16.35
408	47	0.08	1474	2.59	448	113	0.20	4001	7.04	488	187	0.33	9479	16.68
409	48	0.08	1522	2.68	449	99	0.17	4100	7.22	489	198	0.35	9677	17.03
410	45	0.08	1567	2.76	450	87	0.15	4187	7.37	490	196	0.34	9873	17.38
411	34	0.06	1601	2.82	451	120	0.21	4307	7.58	491	167	0.29	10040	17.67
412	55	0.10	1656	2.91	452	84	0.15	4391	7.73	492	184	0.32	10224	17.99
413	46	0.08	1702	3.00	453	100	0.18	4491	7.90	493	177	0.31	10401	18.30
414	41	0.07	1743	3.07	454	115	0.20	4606	8.11	494	182	0.32	10583	18.63
415	41	0.07	1784	3.14	455	115	0.20	4721	8.31	495	195	0.34	10778	18.97
416	54	0.10	1838	3.23	456	105	0.18	4826	8.49	496	199	0.35	10977	19.32
417	49	0.09	1887	3.32	457	107	0.19	4933	8.68	497	194	0.34	11171	19.66
418	46	0.08	1933	3.40	458	107	0.19	5040	8.87	498	195	0.34	11366	20.00
419	42	0.07	1975	3.48	459	134	0.24	5174	9.11	499	208	0.37	11574	20.37
420	51	0.09	2026	3.57	460	124	0.22	5298	9.32	500	209	0.37	11783	20.74
421	53	0.09	2079	3.66	461	113	0.20	5411	9.52	501	209	0.37	11992	21.10
422	43	0.08	2122	3.73	462	112	0.20	5523	9.72	502	205	0.36	12197	21.47
423	53	0.09	2175	3.83	463	122	0.21	5645	9.93	503	189	0.33	12386	21.80
424	48	0.08	2223	3.91	464	141	0.25	5786	10.18	504	238	0.42	12624	22.22
425	58	0.10	2281	4.01	465	137	0.24	5923	10.42	505	221	0.39	12845	22.61
426	71	0.12	2352	4.14	466	127	0.22	6050	10.65	506	230	0.40	13075	23.01
427	53	0.09	2405	4.23	467	156	0.27	6206	10.92	507	204	0.36	13279	23.37
428	63	0.11	2468	4.34	468	141	0.25	6347	11.17	508	216	0.38	13495	23.75
429	68	0.12	2536	4.46	469	147	0.26	6494	11.43	509	236	0.42	13731	24.17
430	76	0.13	2612	4.60	470	118	0.21	6612	11.64	510	220	0.39	13951	24.55
431	68	0.12	2680	4.72	471	141	0.25	6753	11.88	511	246	0.43	14197	24.99
432	60	0.11	2740	4.82	472	149	0.26	6902	12.15	512	229	0.40	14426	25.39
433	57	0.10	2797	4.92	473	155	0.27	7057	12.42	513	249	0.44	14675	25.83
434	59	0.10	2856	5.03	474	157	0.28	7214	12.70	514	224	0.39	14899	26.22
435	74	0.13	2930	5.16	475	141	0.25	7355	12.94	515	231	0.41	15130	26.63
436	80	0.14	3010	5.30	476	129	0.23	7484	13.17	516	231	0.41	15361	27.03
437	72	0.13	3082	5.42	477	149	0.26	7633	13.43	517	254	0.45	15615	27.48
438	74	0.13	3156	5.55	478	163	0.29	7796	13.72	518	249	0.44	15864	27.92

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Table A-22. Writing 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
519	270	0.48	16134	28.39	559	351	0.62	28266	49.75	599	277	0.49	41064	72.27
520	232	0.41	16366	28.80	560	325	0.57	28591	50.32	600	287	0.51	41351	72.77
521	276	0.49	16642	29.29	561	293	0.52	28884	50.83	601	295	0.52	41646	73.29
522	268	0.47	16910	29.76	562	359	0.63	29243	51.47	602	286	0.50	41932	73.80
523	269	0.47	17179	30.23	563	332	0.58	29575	52.05	603	287	0.51	42219	74.30
524	287	0.51	17466	30.74	564	325	0.57	29900	52.62	604	284	0.50	42503	74.80
525	289	0.51	17755	31.25	565	323	0.57	30223	53.19	605	263	0.46	42766	75.26
526	278	0.49	18033	31.74	566	350	0.62	30573	53.81	606	273	0.48	43039	75.74
527	263	0.46	18296	32.20	567	330	0.58	30903	54.39	607	274	0.48	43313	76.23
528	268	0.47	18564	32.67	568	343	0.60	31246	54.99	608	254	0.45	43567	76.67
529	283	0.50	18847	33.17	569	358	0.63	31604	55.62	609	262	0.46	43829	77.14
530	304	0.54	19151	33.70	570	376	0.66	31980	56.28	610	240	0.42	44069	77.56
531	306	0.54	19457	34.24	571	333	0.59	32313	56.87	611	247	0.43	44316	77.99
532	312	0.55	19769	34.79	572	329	0.58	32642	57.45	612	245	0.43	44561	78.42
533	283	0.50	20052	35.29	573	309	0.54	32951	57.99	613	272	0.48	44833	78.90
534	299	0.53	20351	35.82	574	322	0.57	33273	58.56	614	230	0.40	45063	79.31
535	278	0.49	20629	36.31	575	321	0.56	33594	59.12	615	264	0.46	45327	79.77
536	304	0.54	20933	36.84	576	340	0.60	33934	59.72	616	242	0.43	45569	80.20
537	278	0.49	21211	37.33	577	354	0.62	34288	60.34	617	252	0.44	45821	80.64
538	280	0.49	21491	37.82	578	295	0.52	34583	60.86	618	242	0.43	46063	81.07
539	296	0.52	21787	38.34	579	305	0.54	34888	61.40	619	219	0.39	46282	81.45
540	290	0.51	22077	38.85	580	338	0.59	35226	61.99	620	189	0.33	46471	81.78
541	306	0.54	22383	39.39	581	329	0.58	35555	62.57	621	244	0.43	46715	82.21
542	309	0.54	22692	39.94	582	309	0.54	35864	63.12	622	206	0.36	46921	82.58
543	310	0.55	23002	40.48	583	298	0.52	36162	63.64	623	192	0.34	47113	82.91
544	318	0.56	23320	41.04	584	325	0.57	36487	64.21	624	233	0.41	47346	83.32
545	314	0.55	23634	41.59	585	309	0.54	36796	64.76	625	222	0.39	47568	83.72
546	327	0.58	23961	42.17	586	308	0.54	37104	65.30	626	188	0.33	47756	84.05
547	306	0.54	24267	42.71	587	311	0.55	37415	65.85	627	190	0.33	47946	84.38
548	317	0.56	24584	43.27	588	317	0.56	37732	66.41	628	200	0.35	48146	84.73
549	324	0.57	24908	43.84	589	328	0.58	38060	66.98	629	180	0.32	48326	85.05
550	334	0.59	25242	44.42	590	321	0.56	38381	67.55	630	206	0.36	48532	85.41
551	357	0.63	25599	45.05	591	319	0.56	38700	68.11	631	185	0.33	48717	85.74
552	332	0.58	25931	45.64	592	293	0.52	38993	68.62	632	191	0.34	48908	86.07
553	316	0.56	26247	46.19	593	297	0.52	39290	69.15	633	179	0.32	49087	86.39
554	353	0.62	26600	46.81	594	280	0.49	39570	69.64	634	187	0.33	49274	86.72
555	346	0.61	26946	47.42	595	306	0.54	39876	70.18	635	156	0.27	49430	86.99
556	295	0.52	27241	47.94	596	298	0.52	40174	70.70	636	189	0.33	49619	87.33
557	330	0.58	27571	48.52	597	313	0.55	40487	71.25	637	170	0.30	49789	87.62
558	344	0.61	27915	49.13	598	300	0.53	40787	71.78	638	163	0.29	49952	87.91

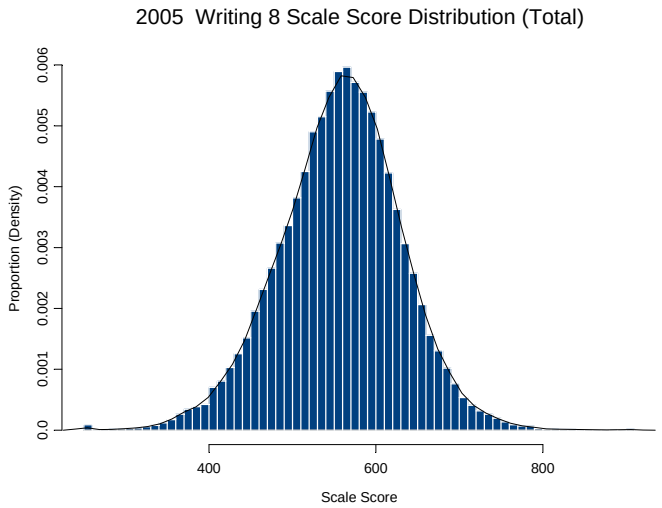
Table A-22. Writing 8 Scale Score Distribution (Continued)

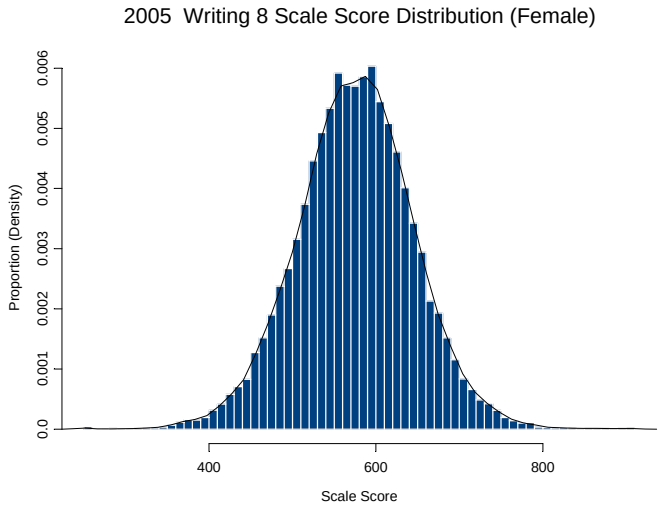
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
639	171	0.30	50123	88.21	679	65	0.11	54478	95.88	719	16	0.03	56063	98.67
640	151	0.27	50274	88.48	680	60	0.11	54538	95.98	720	26	0.05	56089	98.71
641	160	0.28	50434	88.76	681	56	0.10	54594	96.08	721	21	0.04	56110	98.75
642	162	0.29	50596	89.04	682	65	0.11	54659	96.20	722	22	0.04	56132	98.79
643	135	0.24	50731	89.28	683	55	0.10	54714	96.29	723	20	0.04	56152	98.82
644	177	0.31	50908	89.59	684	58	0.10	54772	96.39	724	29	0.05	56181	98.87
645	149	0.26	51057	89.86	685	58	0.10	54830	96.50	725	13	0.02	56194	98.90
646	139	0.24	51196	90.10	686	65	0.11	54895	96.61	726	18	0.03	56212	98.93
647	142	0.25	51338	90.35	687	51	0.09	54946	96.70	727	17	0.03	56229	98.96
648	122	0.21	51460	90.57	688	57	0.10	55003	96.80	728	18	0.03	56247	98.99
649	134	0.24	51594	90.80	689	58	0.10	55061	96.90	729	10	0.02	56257	99.01
650	145	0.26	51739	91.06	690	56	0.10	55117	97.00	730	13	0.02	56270	99.03
651	117	0.21	51856	91.26	691	60	0.11	55177	97.11	731	16	0.03	56286	99.06
652	126	0.22	51982	91.48	692	47	0.08	55224	97.19	732	16	0.03	56302	99.09
653	126	0.22	52108	91.71	693	43	0.08	55267	97.27	733	19	0.03	56321	99.12
654	113	0.20	52221	91.90	694	47	0.08	55314	97.35	734	14	0.02	56335	99.14
655	118	0.21	52339	92.11	695	34	0.06	55348	97.41	735	12	0.02	56347	99.17
656	125	0.22	52464	92.33	696	41	0.07	55389	97.48	736	23	0.04	56370	99.21
657	118	0.21	52582	92.54	697	52	0.09	55441	97.57	737	14	0.02	56384	99.23
658	111	0.20	52693	92.74	698	38	0.07	55479	97.64	738	13	0.02	56397	99.25
659	118	0.21	52811	92.94	699	39	0.07	55518	97.71	739	17	0.03	56414	99.28
660	101	0.18	52912	93.12	700	33	0.06	55551	97.76	740	6	0.01	56420	99.29
661	99	0.17	53011	93.29	701	42	0.07	55593	97.84	741	17	0.03	56437	99.32
662	93	0.16	53104	93.46	702	27	0.05	55620	97.89	742	10	0.02	56447	99.34
663	96	0.17	53200	93.63	703	32	0.06	55652	97.94	743	17	0.03	56464	99.37
664	105	0.18	53305	93.81	704	31	0.05	55683	98.00	744	10	0.02	56474	99.39
665	101	0.18	53406	93.99	705	25	0.04	55708	98.04	745	7	0.01	56481	99.40
666	81	0.14	53487	94.13	706	35	0.06	55743	98.10	746	15	0.03	56496	99.43
667	77	0.14	53564	94.27	707	35	0.06	55778	98.16	747	8	0.01	56504	99.44
668	88	0.15	53652	94.42	708	28	0.05	55806	98.21	748	8	0.01	56512	99.46
669	72	0.13	53724	94.55	709	26	0.05	55832	98.26	749	12	0.02	56524	99.48
670	73	0.13	53797	94.68	710	24	0.04	55856	98.30	750	8	0.01	56532	99.49
671	84	0.15	53881	94.83	711	27	0.05	55883	98.35	751	9	0.02	56541	99.51
672	82	0.14	53963	94.97	712	23	0.04	55906	98.39	752	6	0.01	56547	99.52
673	86	0.15	54049	95.12	713	18	0.03	55924	98.42	753	8	0.01	56555	99.53
674	81	0.14	54130	95.26	714	31	0.05	55955	98.48	754	13	0.02	56568	99.55
675	85	0.15	54215	95.41	715	19	0.03	55974	98.51	755	5	0.01	56573	99.56
676	83	0.15	54298	95.56	716	31	0.05	56005	98.56	756	6	0.01	56579	99.57
677	63	0.11	54361	95.67	717	28	0.05	56033	98.61	757	8	0.01	56587	99.59
678	52	0.09	54413	95.76	718	14	0.02	56047	98.64	758	3	0.01	56590	99.59

Table A-22. Writing 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
759	11	0.02	56601	99.61	807	2	0.00	56756	99.89					
760	9	0.02	56610	99.63	808	1	0.00	56757	99.89					
761	6	0.01	56616	99.64	809	1	0.00	56758	99.89					
762	7	0.01	56623	99.65	810	2	0.00	56760	99.89					
763	8	0.01	56631	99.67	812	1	0.00	56761	99.89					
764	4	0.01	56635	99.67	813	3	0.01	56764	99.90					
765	4	0.01	56639	99.68	815	1	0.00	56765	99.90					
766	5	0.01	56644	99.69	816	3	0.01	56768	99.91					
767	5	0.01	56649	99.70	817	1	0.00	56769	99.91					
768	8	0.01	56657	99.71	818	1	0.00	56770	99.91					
769	3	0.01	56660	99.72	821	3	0.01	56773	99.92					
770	2	0.00	56662	99.72	822	1	0.00	56774	99.92					
771	4	0.01	56666	99.73	826	1	0.00	56775	99.92					
772	1	0.00	56667	99.73	827	3	0.01	56778	99.92					
773	6	0.01	56673	99.74	831	1	0.00	56779	99.93					
774	8	0.01	56681	99.75	832	2	0.00	56781	99.93					
775	2	0.00	56683	99.76	833	2	0.00	56783	99.93					
776	2	0.00	56685	99.76	834	2	0.00	56785	99.94					
777	6	0.01	56691	99.77	840	1	0.00	56786	99.94					
778	4	0.01	56695	99.78	845	1	0.00	56787	99.94					
779	2	0.00	56697	99.78	846	3	0.01	56790	99.95					
780	3	0.01	56700	99.79	851	1	0.00	56791	99.95					
781	2	0.00	56702	99.79	852	4	0.01	56795	99.95					
782	2	0.00	56704	99.79	861	3	0.01	56798	99.96					
784	5	0.01	56709	99.80	864	2	0.00	56800	99.96					
785	4	0.01	56713	99.81	872	2	0.00	56802	99.97					
786	7	0.01	56720	99.82	875	2	0.00	56804	99.97					
787	4	0.01	56724	99.83	884	2	0.00	56806	99.97					
788	1	0.00	56725	99.83	897	6	0.01	56812	99.98					
789	6	0.01	56731	99.84	902	2	0.00	56814	99.99					
790	6	0.01	56737	99.85	910	7	0.01	56821	100.00					
791	3	0.01	56740	99.86										
792	1	0.00	56741	99.86										
793	4	0.01	56745	99.87										
796	2	0.00	56747	99.87										
797	3	0.01	56750	99.88										
800	1	0.00	56751	99.88										
801	1	0.00	56752	99.88										
802	1	0.00	56753	99.88										
805	1	0.00	56754	99.88										

Figure A-22. Writing 8 Scale Score Distributions for the Total Population, Female, and Male Students





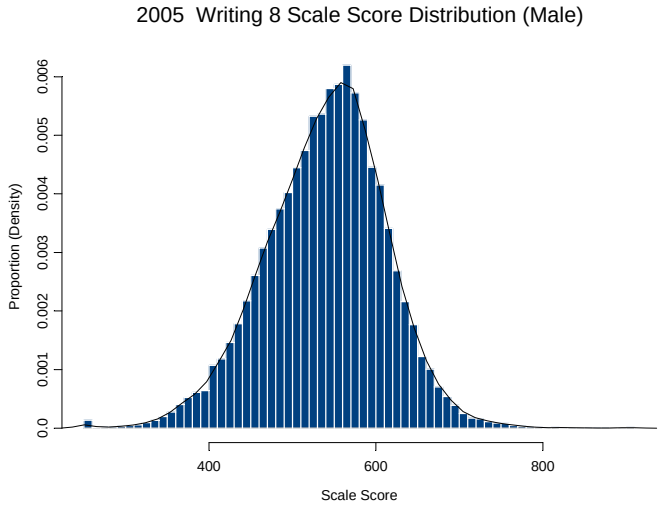


Table A-23. Science 8 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
300	382	0.67	382	0.67	340	13	0.02	821	1.44	380	41	0.07	2045	3.60
301	2	0.00	384	0.68	341	10	0.02	831	1.46	381	54	0.09	2099	3.69
302	3	0.01	387	0.68	342	17	0.03	848	1.49	382	51	0.09	2150	3.78
303	3	0.01	390	0.69	343	15	0.03	863	1.52	383	54	0.09	2204	3.88
304	9	0.02	399	0.70	344	26	0.05	889	1.56	384	44	0.08	2248	3.95
305	5	0.01	404	0.71	345	23	0.04	912	1.60	385	56	0.10	2304	4.05
306	4	0.01	408	0.72	346	19	0.03	931	1.64	386	41	0.07	2345	4.13
307	11	0.02	419	0.74	347	24	0.04	955	1.68	387	54	0.09	2399	4.22
308	5	0.01	424	0.75	348	28	0.05	983	1.73	388	46	0.08	2445	4.30
309	13	0.02	437	0.77	349	25	0.04	1008	1.77	389	61	0.11	2506	4.41
310	8	0.01	445	0.78	350	25	0.04	1033	1.82	390	62	0.11	2568	4.52
311	10	0.02	455	0.80	351	27	0.05	1060	1.86	391	60	0.11	2628	4.62
312	7	0.01	462	0.81	352	23	0.04	1083	1.91	392	52	0.09	2680	4.71
313	6	0.01	468	0.82	353	24	0.04	1107	1.95	393	76	0.13	2756	4.85
314	6	0.01	474	0.83	354	24	0.04	1131	1.99	394	73	0.13	2829	4.98
315	10	0.02	484	0.85	355	21	0.04	1152	2.03	395	72	0.13	2901	5.10
316	9	0.02	493	0.87	356	32	0.06	1184	2.08	396	64	0.11	2965	5.22
317	11	0.02	504	0.89	357	23	0.04	1207	2.12	397	70	0.12	3035	5.34
318	13	0.02	517	0.91	358	22	0.04	1229	2.16	398	75	0.13	3110	5.47
319	6	0.01	523	0.92	359	30	0.05	1259	2.21	399	66	0.12	3176	5.59
320	8	0.01	531	0.93	360	24	0.04	1283	2.26	400	89	0.16	3265	5.74
321	6	0.01	537	0.94	361	29	0.05	1312	2.31	401	67	0.12	3332	5.86
322	14	0.02	551	0.97	362	22	0.04	1334	2.35	402	77	0.14	3409	6.00
323	14	0.02	565	0.99	363	44	0.08	1378	2.42	403	69	0.12	3478	6.12
324	15	0.03	580	1.02	364	22	0.04	1400	2.46	404	88	0.15	3566	6.27
325	12	0.02	592	1.04	365	47	0.08	1447	2.55	405	86	0.15	3652	6.42
326	8	0.01	600	1.06	366	35	0.06	1482	2.61	406	88	0.15	3740	6.58
327	18	0.03	618	1.09	367	34	0.06	1516	2.67	407	92	0.16	3832	6.74
328	13	0.02	631	1.11	368	33	0.06	1549	2.73	408	99	0.17	3931	6.92
329	12	0.02	643	1.13	369	33	0.06	1582	2.78	409	91	0.16	4022	7.08
330	18	0.03	661	1.16	370	48	0.08	1630	2.87	410	84	0.15	4106	7.22
331	17	0.03	678	1.19	371	39	0.07	1669	2.94	411	99	0.17	4205	7.40
332	17	0.03	695	1.22	372	37	0.07	1706	3.00	412	108	0.19	4313	7.59
333	15	0.03	710	1.25	373	36	0.06	1742	3.06	413	122	0.21	4435	7.80
334	12	0.02	722	1.27	374	47	0.08	1789	3.15	414	122	0.21	4557	8.02
335	18	0.03	740	1.30	375	34	0.06	1823	3.21	415	111	0.20	4668	8.21
336	16	0.03	756	1.33	376	36	0.06	1859	3.27	416	94	0.17	4762	8.38
337	14	0.02	770	1.35	377	50	0.09	1909	3.36	417	109	0.19	4871	8.57
338	14	0.02	784	1.38	378	49	0.09	1958	3.44	418	121	0.21	4992	8.78
339	24	0.04	808	1.42	379	46	0.08	2004	3.53	419	126	0.22	5118	9.00

Table A-23. Science 8 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
420	114	0.20	5232	9.20	460	244	0.43	12402	21.82	500	372	0.65	25635	45.10
421	113	0.20	5345	9.40	461	238	0.42	12640	22.24	501	407	0.72	26042	45.81
422	125	0.22	5470	9.62	462	254	0.45	12894	22.68	502	366	0.64	26408	46.46
423	117	0.21	5587	9.83	463	245	0.43	13139	23.11	503	387	0.68	26795	47.14
424	124	0.22	5711	10.05	464	288	0.51	13427	23.62	504	403	0.71	27198	47.85
425	117	0.21	5828	10.25	465	262	0.46	13689	24.08	505	429	0.75	27627	48.60
426	134	0.24	5962	10.49	466	265	0.47	13954	24.55	506	374	0.66	28001	49.26
427	162	0.28	6124	10.77	467	278	0.49	14232	25.04	507	411	0.72	28412	49.98
428	141	0.25	6265	11.02	468	283	0.50	14515	25.53	508	389	0.68	28801	50.67
429	153	0.27	6418	11.29	469	277	0.49	14792	26.02	509	404	0.71	29205	51.38
430	149	0.26	6567	11.55	470	299	0.53	15091	26.55	510	431	0.76	29636	52.14
431	145	0.26	6712	11.81	471	335	0.59	15426	27.14	511	392	0.69	30028	52.83
432	144	0.25	6856	12.06	472	315	0.55	15741	27.69	512	429	0.75	30457	53.58
433	166	0.29	7022	12.35	473	340	0.60	16081	28.29	513	408	0.72	30865	54.30
434	162	0.28	7184	12.64	474	331	0.58	16412	28.87	514	380	0.67	31245	54.97
435	165	0.29	7349	12.93	475	313	0.55	16725	29.42	515	429	0.75	31674	55.72
436	155	0.27	7504	13.20	476	334	0.59	17059	30.01	516	395	0.69	32069	56.42
437	172	0.30	7676	13.50	477	336	0.59	17395	30.60	517	389	0.68	32458	57.10
438	177	0.31	7853	13.82	478	306	0.54	17701	31.14	518	378	0.66	32836	57.77
439	159	0.28	8012	14.09	479	316	0.56	18017	31.70	519	389	0.68	33225	58.45
440	169	0.30	8181	14.39	480	340	0.60	18357	32.29	520	438	0.77	33663	59.22
441	174	0.31	8355	14.70	481	350	0.62	18707	32.91	521	395	0.69	34058	59.91
442	167	0.29	8522	14.99	482	322	0.57	19029	33.48	522	401	0.71	34459	60.62
443	181	0.32	8703	15.31	483	379	0.67	19408	34.14	523	374	0.66	34833	61.28
444	203	0.36	8906	15.67	484	348	0.61	19756	34.75	524	396	0.70	35229	61.97
445	202	0.36	9108	16.02	485	355	0.62	20111	35.38	525	376	0.66	35605	62.64
446	210	0.37	9318	16.39	486	339	0.60	20450	35.98	526	387	0.68	35992	63.32
447	199	0.35	9517	16.74	487	344	0.61	20794	36.58	527	381	0.67	36373	63.99
448	200	0.35	9717	17.09	488	339	0.60	21133	37.18	528	425	0.75	36798	64.74
449	212	0.37	9929	17.47	489	371	0.65	21504	37.83	529	392	0.69	37190	65.42
450	191	0.34	10120	17.80	490	360	0.63	21864	38.46	530	350	0.62	37540	66.04
451	230	0.40	10350	18.21	491	362	0.64	22226	39.10	531	397	0.70	37937	66.74
452	191	0.34	10541	18.54	492	359	0.63	22585	39.73	532	384	0.68	38321	67.41
453	202	0.36	10743	18.90	493	389	0.68	22974	40.42	533	353	0.62	38674	68.04
454	230	0.40	10973	19.30	494	370	0.65	23344	41.07	534	397	0.70	39071	68.73
455	234	0.41	11207	19.72	495	405	0.71	23749	41.78	535	371	0.65	39442	69.39
456	242	0.43	11449	20.14	496	373	0.66	24122	42.44	536	373	0.66	39815	70.04
457	221	0.39	11670	20.53	497	393	0.69	24515	43.13	537	395	0.69	40210	70.74
458	247	0.43	11917	20.96	498	363	0.64	24878	43.77	538	362	0.64	40572	71.37
459	241	0.42	12158	21.39	499	385	0.68	25263	44.44	539	359	0.63	40931	72.01

Table A-23. Science 8 Scale Score Distribution (Continued)

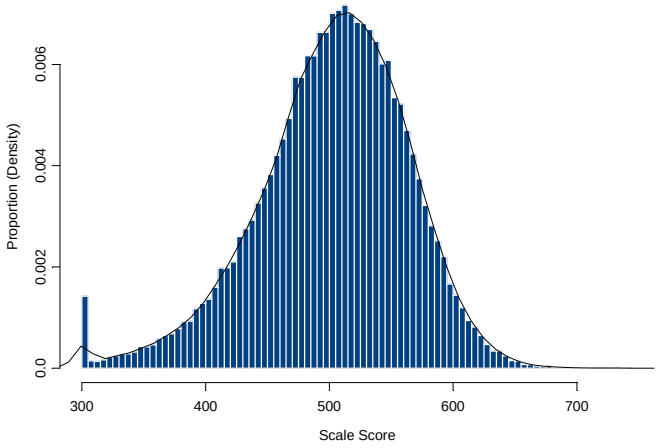
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
540	346	0.61	41277	72.61	580	183	0.32	52229	91.88	620	38	0.07	56090	98.67
541	358	0.63	41635	73.24	581	146	0.26	52375	92.14	621	41	0.07	56131	98.75
542	324	0.57	41959	73.81	582	165	0.29	52540	92.43	622	38	0.07	56169	98.81
543	348	0.61	42307	74.43	583	161	0.28	52701	92.71	623	41	0.07	56210	98.88
544	347	0.61	42654	75.04	584	167	0.29	52868	93.01	624	31	0.05	56241	98.94
545	331	0.58	42985	75.62	585	160	0.28	53028	93.29	625	32	0.06	56273	99.00
546	352	0.62	43337	76.24	586	158	0.28	53186	93.56	626	28	0.05	56301	99.04
547	328	0.58	43665	76.82	587	155	0.27	53341	93.84	627	27	0.05	56328	99.09
548	340	0.60	44005	77.41	588	137	0.24	53478	94.08	628	27	0.05	56355	99.14
549	355	0.62	44360	78.04	589	144	0.25	53622	94.33	629	21	0.04	56376	99.18
550	353	0.62	44713	78.66	590	121	0.21	53743	94.54	630	30	0.05	56406	99.23
551	304	0.53	45017	79.19	591	146	0.26	53889	94.80	631	27	0.05	56433	99.28
552	322	0.57	45339	79.76	592	123	0.22	54012	95.02	632	16	0.03	56449	99.31
553	274	0.48	45613	80.24	593	112	0.20	54124	95.21	633	26	0.05	56475	99.35
554	317	0.56	45930	80.80	594	126	0.22	54250	95.44	634	14	0.02	56489	99.38
555	302	0.53	46232	81.33	595	119	0.21	54369	95.65	635	13	0.02	56502	99.40
556	298	0.52	46530	81.86	596	98	0.17	54467	95.82	636	27	0.05	56529	99.45
557	324	0.57	46854	82.43	597	77	0.14	54544	95.95	637	24	0.04	56553	99.49
558	287	0.50	47141	82.93	598	87	0.15	54631	96.11	638	18	0.03	56571	99.52
559	293	0.52	47434	83.45	599	108	0.19	54739	96.30	639	17	0.03	56588	99.55
560	281	0.49	47715	83.94	600	102	0.18	54841	96.48	640	10	0.02	56598	99.57
561	271	0.48	47986	84.42	601	94	0.17	54935	96.64	641	10	0.02	56608	99.58
562	272	0.48	48258	84.90	602	90	0.16	55025	96.80	642	9	0.02	56617	99.60
563	249	0.44	48507	85.33	603	83	0.15	55108	96.95	643	21	0.04	56638	99.64
564	263	0.46	48770	85.80	604	77	0.14	55185	97.08	644	13	0.02	56651	99.66
565	280	0.49	49050	86.29	605	66	0.12	55251	97.20	645	16	0.03	56667	99.69
566	269	0.47	49319	86.76	606	74	0.13	55325	97.33	646	8	0.01	56675	99.70
567	237	0.42	49556	87.18	607	74	0.13	55399	97.46	647	12	0.02	56687	99.72
568	258	0.45	49814	87.63	608	69	0.12	55468	97.58	648	10	0.02	56697	99.74
569	189	0.33	50003	87.97	609	61	0.11	55529	97.69	649	7	0.01	56704	99.75
570	250	0.44	50253	88.41	610	62	0.11	55591	97.80	650	5	0.01	56709	99.76
571	217	0.38	50470	88.79	611	65	0.11	55656	97.91	651	9	0.02	56718	99.78
572	207	0.36	50677	89.15	612	55	0.10	55711	98.01	652	6	0.01	56724	99.79
573	213	0.37	50890	89.53	613	47	0.08	55758	98.09	653	10	0.02	56734	99.81
574	205	0.36	51095	89.89	614	53	0.09	55811	98.18	654	10	0.02	56744	99.82
575	221	0.39	51316	90.28	615	48	0.08	55859	98.27	655	5	0.01	56749	99.83
576	179	0.31	51495	90.59	616	54	0.09	55913	98.36	656	2	0.00	56751	99.84
577	201	0.35	51696	90.94	617	53	0.09	55966	98.46	657	5	0.01	56756	99.85
578	192	0.34	51888	91.28	618	45	0.08	56011	98.53	658	5	0.01	56761	99.85
579	158	0.28	52046	91.56	619	41	0.07	56052	98.61	659	5	0.01	56766	99.86

Table A-23. Science 8 Scale Score Distribution (Continued)

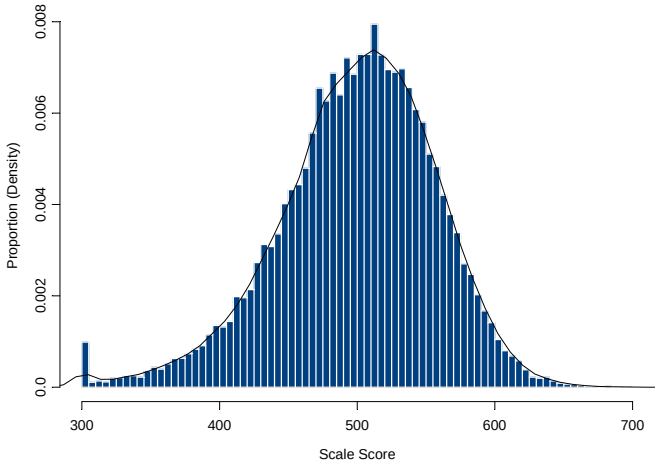
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
660	4	0.01	56770	99.87										
661	4	0.01	56774	99.88										
662	6	0.01	56780	99.89										
663	6	0.01	56786	99.90										
664	2	0.00	56788	99.90										
665	2	0.00	56790	99.91										
666	1	0.00	56791	99.91										
667	5	0.01	56796	99.92										
669	2	0.00	56798	99.92										
670	4	0.01	56802	99.93										
671	2	0.00	56804	99.93										
672	2	0.00	56806	99.93										
673	3	0.01	56809	99.94										
674	1	0.00	56810	99.94										
675	1	0.00	56811	99.94										
676	2	0.00	56813	99.95										
678	3	0.01	56816	99.95										
679	2	0.00	56818	99.95										
680	5	0.01	56823	99.96										
681	2	0.00	56825	99.97										
682	2	0.00	56827	99.97										
684	1	0.00	56828	99.97										
686	1	0.00	56829	99.97										
688	2	0.00	56831	99.98										
690	1	0.00	56832	99.98										
691	1	0.00	56833	99.98										
694	1	0.00	56834	99.98										
695	1	0.00	56835	99.98										
697	2	0.00	56837	99.99										
700	1	0.00	56838	99.99										
704	2	0.00	56840	99.99										
716	1	0.00	56841	99.99										
725	1	0.00	56842	100.00										
734	1	0.00	56843	100.00										
742	1	0.00	56844	100.00										

Figure A-23. Science 8 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Science 8 Scale Score Distribution (Total)



2005 Science 8 Scale Score Distribution (Female)



2005 Science 8 Scale Score Distribution (Male)

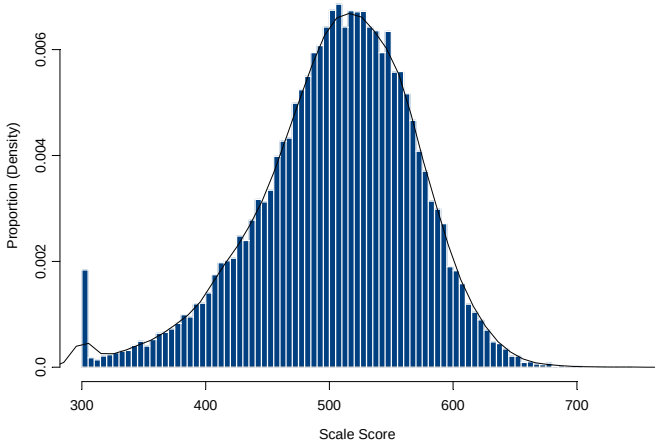


Table A-24. Math 9 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
340	702	1.22	702	1.22	380	8	0.01	1061	1.84	420	39	0.07	1862	3.23
341	4	0.01	706	1.23	381	12	0.02	1073	1.86	421	37	0.06	1899	3.30
342	8	0.01	714	1.24	382	10	0.02	1083	1.88	422	36	0.06	1935	3.36
343	6	0.01	720	1.25	383	11	0.02	1094	1.90	423	28	0.05	1963	3.41
344	4	0.01	724	1.26	384	20	0.03	1114	1.93	424	35	0.06	1998	3.47
345	7	0.01	731	1.27	385	11	0.02	1125	1.95	425	25	0.04	2023	3.51
346	5	0.01	736	1.28	386	12	0.02	1137	1.97	426	34	0.06	2057	3.57
347	8	0.01	744	1.29	387	25	0.04	1162	2.02	427	33	0.06	2090	3.63
348	12	0.02	756	1.31	388	20	0.03	1182	2.05	428	32	0.06	2122	3.68
349	9	0.02	765	1.33	389	4	0.01	1186	2.06	429	45	0.08	2167	3.76
350	4	0.01	769	1.33	390	11	0.02	1197	2.08	430	35	0.06	2202	3.82
351	6	0.01	775	1.35	391	18	0.03	1215	2.11	431	39	0.07	2241	3.89
352	6	0.01	781	1.36	392	24	0.04	1239	2.15	432	48	0.08	2289	3.97
353	6	0.01	787	1.37	393	8	0.01	1247	2.16	433	32	0.06	2321	4.03
354	8	0.01	795	1.38	394	17	0.03	1264	2.19	434	31	0.05	2352	4.08
355	7	0.01	802	1.39	395	15	0.03	1279	2.22	435	41	0.07	2393	4.15
356	5	0.01	807	1.40	396	9	0.02	1288	2.24	436	42	0.07	2435	4.23
357	8	0.01	815	1.41	397	18	0.03	1306	2.27	437	39	0.07	2474	4.29
358	9	0.02	824	1.43	398	18	0.03	1324	2.30	438	41	0.07	2515	4.37
359	8	0.01	832	1.44	399	21	0.04	1345	2.33	439	67	0.12	2582	4.48
360	8	0.01	840	1.46	400	14	0.02	1359	2.36	440	36	0.06	2618	4.54
361	8	0.01	848	1.47	401	18	0.03	1377	2.39	441	38	0.07	2656	4.61
362	10	0.02	858	1.49	402	13	0.02	1390	2.41	442	58	0.10	2714	4.71
363	6	0.01	864	1.50	403	27	0.05	1417	2.46	443	46	0.08	2760	4.79
364	5	0.01	869	1.51	404	18	0.03	1435	2.49	444	63	0.11	2823	4.90
365	13	0.02	882	1.53	405	31	0.05	1466	2.55	445	41	0.07	2864	4.97
366	11	0.02	893	1.55	406	18	0.03	1484	2.58	446	56	0.10	2920	5.07
367	10	0.02	903	1.57	407	26	0.05	1510	2.62	447	63	0.11	2983	5.18
368	9	0.02	912	1.58	408	26	0.05	1536	2.67	448	70	0.12	3053	5.30
369	18	0.03	930	1.61	409	17	0.03	1553	2.70	449	56	0.10	3109	5.40
370	11	0.02	941	1.63	410	30	0.05	1583	2.75	450	76	0.13	3185	5.53
371	11	0.02	952	1.65	411	29	0.05	1612	2.80	451	74	0.13	3259	5.66
372	17	0.03	969	1.68	412	18	0.03	1630	2.83	452	50	0.09	3309	5.74
373	13	0.02	982	1.70	413	24	0.04	1654	2.87	453	64	0.11	3373	5.86
374	7	0.01	989	1.72	414	27	0.05	1681	2.92	454	69	0.12	3442	5.98
375	12	0.02	1001	1.74	415	25	0.04	1706	2.96	455	85	0.15	3527	6.12
376	14	0.02	1015	1.76	416	30	0.05	1736	3.01	456	65	0.11	3592	6.24
377	13	0.02	1028	1.78	417	36	0.06	1772	3.08	457	81	0.14	3673	6.38
378	14	0.02	1042	1.81	418	24	0.04	1796	3.12	458	88	0.15	3761	6.53
379	11	0.02	1053	1.83	419	27	0.05	1823	3.16	459	66	0.11	3827	6.64

Table A-24. Math 9 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
460	81	0.14	3908	6.78	500	176	0.31	8831	15.33	540	278	0.48	17788	30.88
461	78	0.14	3986	6.92	501	202	0.35	9033	15.68	541	282	0.49	18070	31.37
462	80	0.14	4066	7.06	502	181	0.31	9214	16.00	542	270	0.47	18340	31.84
463	99	0.17	4165	7.23	503	171	0.30	9385	16.29	543	264	0.46	18604	32.30
464	94	0.16	4259	7.39	504	165	0.29	9550	16.58	544	275	0.48	18879	32.77
465	91	0.16	4350	7.55	505	193	0.34	9743	16.91	545	279	0.48	19158	33.26
466	78	0.14	4428	7.69	506	159	0.28	9902	17.19	546	296	0.51	19454	33.77
467	94	0.16	4522	7.85	507	180	0.31	10082	17.50	547	291	0.51	19745	34.28
468	92	0.16	4614	8.01	508	191	0.33	10273	17.83	548	301	0.52	20046	34.80
469	93	0.16	4707	8.17	509	187	0.32	10460	18.16	549	312	0.54	20358	35.34
470	94	0.16	4801	8.33	510	183	0.32	10643	18.48	550	273	0.47	20631	35.82
471	93	0.16	4894	8.50	511	197	0.34	10840	18.82	551	314	0.55	20945	36.36
472	106	0.18	5000	8.68	512	204	0.35	11044	19.17	552	279	0.48	21224	36.85
473	105	0.18	5105	8.86	513	208	0.36	11252	19.53	553	285	0.49	21509	37.34
474	109	0.19	5214	9.05	514	230	0.40	11482	19.93	554	299	0.52	21808	37.86
475	100	0.17	5314	9.23	515	234	0.41	11716	20.34	555	326	0.57	22134	38.43
476	106	0.18	5420	9.41	516	223	0.39	11939	20.73	556	285	0.49	22419	38.92
477	121	0.21	5541	9.62	517	244	0.42	12183	21.15	557	284	0.49	22703	39.41
478	105	0.18	5646	9.80	518	198	0.34	12381	21.49	558	323	0.56	23026	39.97
479	103	0.18	5749	9.98	519	201	0.35	12582	21.84	559	303	0.53	23329	40.50
480	126	0.22	5875	10.20	520	233	0.40	12815	22.25	560	305	0.53	23634	41.03
481	134	0.23	6009	10.43	521	229	0.40	13044	22.64	561	308	0.53	23942	41.56
482	130	0.23	6139	10.66	522	217	0.38	13261	23.02	562	348	0.60	24290	42.17
483	130	0.23	6269	10.88	523	251	0.44	13512	23.46	563	341	0.59	24631	42.76
484	120	0.21	6389	11.09	524	228	0.40	13740	23.85	564	332	0.58	24963	43.34
485	114	0.20	6503	11.29	525	215	0.37	13955	24.23	565	319	0.55	25282	43.89
486	118	0.20	6621	11.49	526	236	0.41	14191	24.64	566	320	0.56	25602	44.45
487	143	0.25	6764	11.74	527	235	0.41	14426	25.04	567	336	0.58	25938	45.03
488	155	0.27	6919	12.01	528	230	0.40	14656	25.44	568	357	0.62	26295	45.65
489	153	0.27	7072	12.28	529	255	0.44	14911	25.89	569	337	0.59	26632	46.23
490	144	0.25	7216	12.53	530	259	0.45	15170	26.34	570	363	0.63	26995	46.86
491	129	0.22	7345	12.75	531	252	0.44	15422	26.77	571	315	0.55	27310	47.41
492	174	0.30	7519	13.05	532	257	0.45	15679	27.22	572	335	0.58	27645	47.99
493	139	0.24	7658	13.29	533	225	0.39	15904	27.61	573	317	0.55	27962	48.54
494	154	0.27	7812	13.56	534	270	0.47	16174	28.08	574	346	0.60	28308	49.14
495	166	0.29	7978	13.85	535	264	0.46	16438	28.54	575	342	0.59	28650	49.74
496	165	0.29	8143	14.14	536	261	0.45	16699	28.99	576	316	0.55	28966	50.29
497	160	0.28	8303	14.41	537	250	0.43	16949	29.42	577	350	0.61	29316	50.89
498	187	0.32	8490	14.74	538	286	0.50	17235	29.92	578	352	0.61	29668	51.50
499	165	0.29	8655	15.03	539	275	0.48	17510	30.40	579	330	0.57	29998	52.08

Table A-24. Math 9 Scale Score Distribution (Continued)

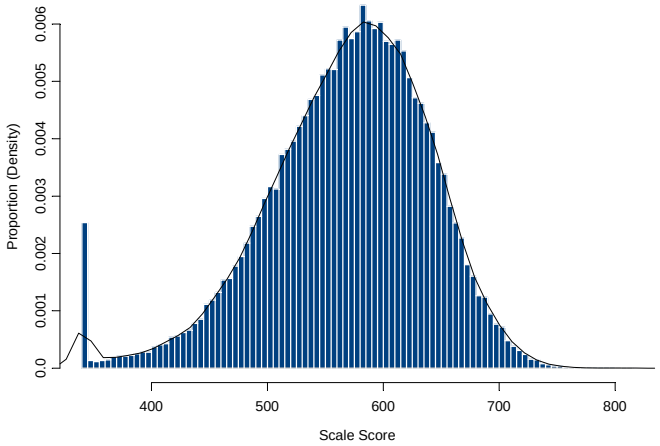
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
580	342	0.59	30340	52.67	620	313	0.54	43857	76.14	660	152	0.26	53241	92.43
581	346	0.60	30686	53.27	621	310	0.54	44167	76.67	661	154	0.27	53395	92.69
582	393	0.68	31079	53.95	622	262	0.45	44429	77.13	662	140	0.24	53535	92.94
583	351	0.61	31430	54.56	623	308	0.53	44737	77.66	663	156	0.27	53691	93.21
584	371	0.64	31801	55.21	624	296	0.51	45033	78.18	664	141	0.24	53832	93.45
585	362	0.63	32163	55.84	625	283	0.49	45316	78.67	665	139	0.24	53971	93.69
586	372	0.65	32535	56.48	626	292	0.51	45608	79.18	666	151	0.26	54122	93.96
587	386	0.67	32921	57.15	627	259	0.45	45867	79.63	667	128	0.22	54250	94.18
588	331	0.57	33252	57.73	628	281	0.49	46148	80.11	668	123	0.21	54373	94.39
589	319	0.55	33571	58.28	629	237	0.41	46385	80.53	669	131	0.23	54504	94.62
590	336	0.58	33907	58.86	630	289	0.50	46674	81.03	670	121	0.21	54625	94.83
591	338	0.59	34245	59.45	631	263	0.46	46937	81.48	671	128	0.22	54753	95.05
592	354	0.61	34599	60.06	632	275	0.48	47212	81.96	672	108	0.19	54861	95.24
593	358	0.62	34957	60.69	633	283	0.49	47495	82.45	673	93	0.16	54954	95.40
594	338	0.59	35295	61.27	634	249	0.43	47744	82.88	674	98	0.17	55052	95.57
595	317	0.55	35612	61.82	635	260	0.45	48004	83.34	675	93	0.16	55145	95.73
596	334	0.58	35946	62.40	636	266	0.46	48270	83.80	676	87	0.15	55232	95.88
597	370	0.64	36316	63.05	637	230	0.40	48500	84.20	677	104	0.18	55336	96.06
598	331	0.57	36647	63.62	638	244	0.42	48744	84.62	678	95	0.16	55431	96.23
599	360	0.62	37007	64.24	639	256	0.44	49000	85.07	679	85	0.15	55516	96.38
600	342	0.59	37349	64.84	640	237	0.41	49237	85.48	680	91	0.16	55607	96.53
601	374	0.65	37723	65.49	641	242	0.42	49479	85.90	681	85	0.15	55692	96.68
602	319	0.55	38042	66.04	642	252	0.44	49731	86.33	682	56	0.10	55748	96.78
603	349	0.61	38391	66.65	643	230	0.40	49961	86.73	683	87	0.15	55835	96.93
604	298	0.52	38689	67.16	644	230	0.40	50191	87.13	684	69	0.12	55904	97.05
605	302	0.52	38991	67.69	645	231	0.40	50422	87.53	685	67	0.12	55971	97.17
606	342	0.59	39333	68.28	646	226	0.39	50648	87.93	686	63	0.11	56034	97.28
607	320	0.56	39653	68.84	647	189	0.33	50837	88.25	687	86	0.15	56120	97.43
608	321	0.56	39974	69.40	648	205	0.36	51042	88.61	688	67	0.12	56187	97.54
609	295	0.51	40269	69.91	649	200	0.35	51242	88.96	689	72	0.12	56259	97.67
610	348	0.60	40617	70.51	650	212	0.37	51454	89.33	690	69	0.12	56328	97.79
611	326	0.57	40943	71.08	651	203	0.35	51657	89.68	691	61	0.11	56389	97.89
612	330	0.57	41273	71.65	652	221	0.38	51878	90.06	692	61	0.11	56450	98.00
613	340	0.59	41613	72.24	653	194	0.34	52072	90.40	693	47	0.08	56497	98.08
614	342	0.59	41955	72.83	654	195	0.34	52267	90.74	694	52	0.09	56549	98.17
615	309	0.54	42264	73.37	655	161	0.28	52428	91.02	695	51	0.09	56600	98.26
616	343	0.60	42607	73.97	656	156	0.27	52584	91.29	696	51	0.09	56651	98.35
617	315	0.55	42922	74.51	657	175	0.30	52759	91.59	697	52	0.09	56703	98.44
618	318	0.55	43240	75.07	658	164	0.28	52923	91.88	698	40	0.07	56743	98.51
619	304	0.53	43544	75.59	659	166	0.29	53089	92.16	699	43	0.07	56786	98.58

Table A-24. Math 9 Scale Score Distribution (Continued)

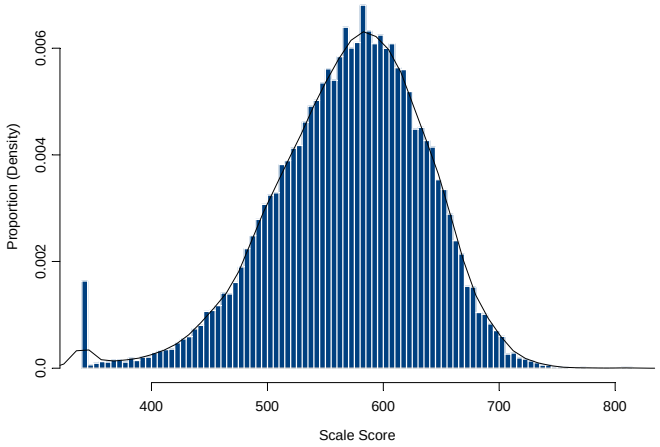
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
700	35	0.06	56821	98.64	740	4	0.01	57543	99.90					
701	44	0.08	56865	98.72	741	4	0.01	57547	99.90					
702	45	0.08	56910	98.80	742	4	0.01	57551	99.91					
703	36	0.06	56946	98.86	743	6	0.01	57557	99.92					
704	42	0.07	56988	98.93	744	1	0.00	57558	99.92					
705	39	0.07	57027	99.00	745	2	0.00	57560	99.93					
706	33	0.06	57060	99.06	746	3	0.01	57563	99.93					
707	26	0.05	57086	99.10	747	1	0.00	57564	99.93					
708	25	0.04	57111	99.15	748	3	0.01	57567	99.94					
709	31	0.05	57142	99.20	749	1	0.00	57568	99.94					
710	23	0.04	57165	99.24	750	3	0.01	57571	99.94					
711	29	0.05	57194	99.29	751	1	0.00	57572	99.95					
712	24	0.04	57218	99.33	752	2	0.00	57574	99.95					
713	24	0.04	57242	99.37	753	4	0.01	57578	99.96					
714	19	0.03	57261	99.41	754	3	0.01	57581	99.96					
715	14	0.02	57275	99.43	755	1	0.00	57582	99.96					
716	16	0.03	57291	99.46	756	1	0.00	57583	99.97					
717	16	0.03	57307	99.49	759	3	0.01	57586	99.97					
718	20	0.03	57327	99.52	760	1	0.00	57587	99.97					
719	15	0.03	57342	99.55	761	1	0.00	57588	99.97					
720	22	0.04	57364	99.59	762	1	0.00	57589	99.98					
721	23	0.04	57387	99.63	763	1	0.00	57590	99.98					
722	16	0.03	57403	99.65	767	1	0.00	57591	99.98					
723	13	0.02	57416	99.68	770	1	0.00	57592	99.98					
724	11	0.02	57427	99.69	773	1	0.00	57593	99.98					
725	6	0.01	57433	99.70	774	1	0.00	57594	99.98					
726	11	0.02	57444	99.72	776	1	0.00	57595	99.99					
727	7	0.01	57451	99.74	785	1	0.00	57596	99.99					
728	13	0.02	57464	99.76	790	1	0.00	57597	99.99					
729	6	0.01	57470	99.77	791	1	0.00	57598	99.99					
730	8	0.01	57478	99.78	799	1	0.00	57599	99.99					
731	9	0.02	57487	99.80	806	2	0.00	57601	100.00					
732	9	0.02	57496	99.81	814	1	0.00	57602	100.00					
733	11	0.02	57507	99.83	815	1	0.00	57603	100.00					
734	4	0.01	57511	99.84										
735	9	0.02	57520	99.86										
736	4	0.01	57524	99.86										
737	6	0.01	57530	99.87										
738	6	0.01	57536	99.88										
739	3	0.01	57539	99.89										

Figure A-24. Math 9 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Mathematics 9 Scale Score Distribution (Total)



2005 Mathematics 9 Scale Score Distribution (Female)



2005 Mathematics 9 Scale Score Distribution (Male)

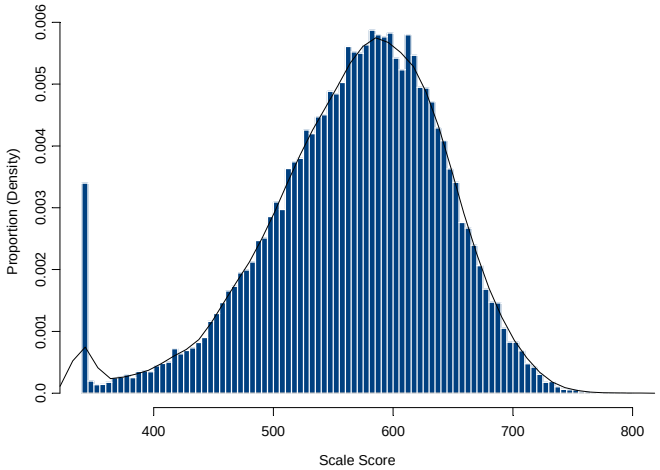


Table A-25. Reading 9 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
350	259	0.45	259	0.45	431	2	0.00	312	0.54	477	1	0.00	411	0.71
352	3	0.01	262	0.45	432	1	0.00	313	0.54	478	7	0.01	418	0.72
359	1	0.00	263	0.46	433	5	0.01	318	0.55	479	3	0.01	421	0.73
362	1	0.00	264	0.46	435	2	0.00	320	0.55	480	4	0.01	425	0.74
364	1	0.00	265	0.46	436	3	0.01	323	0.56	481	5	0.01	430	0.74
366	1	0.00	266	0.46	437	2	0.00	325	0.56	482	5	0.01	435	0.75
367	1	0.00	267	0.46	440	1	0.00	326	0.56	483	6	0.01	441	0.76
368	1	0.00	268	0.46	441	1	0.00	327	0.57	484	5	0.01	446	0.77
369	1	0.00	269	0.47	442	2	0.00	329	0.57	485	10	0.02	456	0.79
375	2	0.00	271	0.47	443	1	0.00	330	0.57	486	1	0.00	457	0.79
376	1	0.00	272	0.47	445	4	0.01	334	0.58	487	4	0.01	461	0.80
377	1	0.00	273	0.47	446	1	0.00	335	0.58	488	5	0.01	466	0.81
380	1	0.00	274	0.47	447	2	0.00	337	0.58	489	7	0.01	473	0.82
381	3	0.01	277	0.48	448	2	0.00	339	0.59	490	8	0.01	481	0.83
382	2	0.00	279	0.48	449	2	0.00	341	0.59	491	6	0.01	487	0.84
384	1	0.00	280	0.48	450	3	0.01	344	0.60	492	6	0.01	493	0.85
385	2	0.00	282	0.49	451	2	0.00	346	0.60	493	8	0.01	501	0.87
386	1	0.00	283	0.49	452	2	0.00	348	0.60	494	12	0.02	513	0.89
388	1	0.00	284	0.49	453	1	0.00	349	0.60	495	13	0.02	526	0.91
395	1	0.00	285	0.49	454	1	0.00	350	0.61	496	7	0.01	533	0.92
396	2	0.00	287	0.50	455	1	0.00	351	0.61	497	6	0.01	539	0.93
399	1	0.00	288	0.50	456	2	0.00	353	0.61	498	9	0.02	548	0.95
401	1	0.00	289	0.50	457	3	0.01	356	0.62	499	10	0.02	558	0.97
402	1	0.00	290	0.50	458	1	0.00	357	0.62	500	8	0.01	566	0.98
403	1	0.00	291	0.50	459	2	0.00	359	0.62	501	5	0.01	571	0.99
407	1	0.00	292	0.51	460	3	0.01	362	0.63	502	11	0.02	582	1.01
409	1	0.00	293	0.51	461	3	0.01	365	0.63	503	11	0.02	593	1.03
410	2	0.00	295	0.51	462	4	0.01	369	0.64	504	10	0.02	603	1.04
411	1	0.00	296	0.51	463	1	0.00	370	0.64	505	16	0.03	619	1.07
412	1	0.00	297	0.51	464	3	0.01	373	0.65	506	12	0.02	631	1.09
415	1	0.00	298	0.52	465	2	0.00	375	0.65	507	13	0.02	644	1.12
417	1	0.00	299	0.52	466	2	0.00	377	0.65	508	15	0.03	659	1.14
418	1	0.00	300	0.52	468	6	0.01	383	0.66	509	7	0.01	666	1.15
420	2	0.00	302	0.52	470	3	0.01	386	0.67	510	9	0.02	675	1.17
423	2	0.00	304	0.53	471	4	0.01	390	0.68	511	14	0.02	689	1.19
424	1	0.00	305	0.53	472	3	0.01	393	0.68	512	10	0.02	699	1.21
425	1	0.00	306	0.53	473	7	0.01	400	0.69	513	12	0.02	711	1.23
426	1	0.00	307	0.53	474	5	0.01	405	0.70	514	10	0.02	721	1.25
429	2	0.00	309	0.54	475	2	0.00	407	0.70	515	16	0.03	737	1.28
430	1	0.00	310	0.54	476	3	0.01	410	0.71	516	18	0.03	755	1.31

Table A-25. Reading 9 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
517	17	0.03	772	1.34	557	55	0.10	2179	3.77	597	171	0.30	6617	11.46
518	17	0.03	789	1.37	558	76	0.13	2255	3.90	598	158	0.27	6775	11.73
519	18	0.03	807	1.40	559	77	0.13	2332	4.04	599	177	0.31	6952	12.04
520	15	0.03	822	1.42	560	73	0.13	2405	4.16	600	193	0.33	7145	12.37
521	15	0.03	837	1.45	561	55	0.10	2460	4.26	601	177	0.31	7322	12.68
522	15	0.03	852	1.48	562	67	0.12	2527	4.38	602	205	0.35	7527	13.03
523	37	0.06	889	1.54	563	72	0.12	2599	4.50	603	199	0.34	7726	13.38
524	25	0.04	914	1.58	564	66	0.11	2665	4.61	604	198	0.34	7924	13.72
525	22	0.04	936	1.62	565	68	0.12	2733	4.73	605	182	0.32	8106	14.04
526	18	0.03	954	1.65	566	75	0.13	2808	4.86	606	196	0.34	8302	14.37
527	20	0.03	974	1.69	567	79	0.14	2887	5.00	607	184	0.32	8486	14.69
528	29	0.05	1003	1.74	568	74	0.13	2961	5.13	608	241	0.42	8727	15.11
529	36	0.06	1039	1.80	569	81	0.14	3042	5.27	609	213	0.37	8940	15.48
530	23	0.04	1062	1.84	570	82	0.14	3124	5.41	610	224	0.39	9164	15.87
531	26	0.05	1088	1.88	571	101	0.17	3225	5.58	611	209	0.36	9373	16.23
532	25	0.04	1113	1.93	572	89	0.15	3314	5.74	612	230	0.40	9603	16.63
533	26	0.05	1139	1.97	573	93	0.16	3407	5.90	613	252	0.44	9855	17.06
534	30	0.05	1169	2.02	574	96	0.17	3503	6.07	614	255	0.44	10110	17.51
535	25	0.04	1194	2.07	575	101	0.17	3604	6.24	615	222	0.38	10332	17.89
536	32	0.06	1226	2.12	576	104	0.18	3708	6.42	616	246	0.43	10578	18.32
537	42	0.07	1268	2.20	577	104	0.18	3812	6.60	617	242	0.42	10820	18.73
538	35	0.06	1303	2.26	578	122	0.21	3934	6.81	618	270	0.47	11090	19.20
539	36	0.06	1339	2.32	579	92	0.16	4026	6.97	619	241	0.42	11331	19.62
540	25	0.04	1364	2.36	580	119	0.21	4145	7.18	620	266	0.46	11597	20.08
541	41	0.07	1405	2.43	581	135	0.23	4280	7.41	621	279	0.48	11876	20.56
542	36	0.06	1441	2.50	582	126	0.22	4406	7.63	622	291	0.50	12167	21.07
543	44	0.08	1485	2.57	583	113	0.20	4519	7.82	623	270	0.47	12437	21.53
544	42	0.07	1527	2.64	584	106	0.18	4625	8.01	624	300	0.52	12737	22.05
545	40	0.07	1567	2.71	585	146	0.25	4771	8.26	625	295	0.51	13032	22.56
546	42	0.07	1609	2.79	586	124	0.21	4895	8.48	626	313	0.54	13345	23.11
547	51	0.09	1660	2.87	587	138	0.24	5033	8.71	627	274	0.47	13619	23.58
548	35	0.06	1695	2.93	588	137	0.24	5170	8.95	628	317	0.55	13936	24.13
549	49	0.08	1744	3.02	589	166	0.29	5336	9.24	629	313	0.54	14249	24.67
550	58	0.10	1802	3.12	590	154	0.27	5490	9.51	630	324	0.56	14573	25.23
551	59	0.10	1861	3.22	591	148	0.26	5638	9.76	631	331	0.57	14904	25.81
552	51	0.09	1912	3.31	592	156	0.27	5794	10.03	632	333	0.58	15237	26.38
553	54	0.09	1966	3.40	593	163	0.28	5957	10.31	633	350	0.61	15587	26.99
554	51	0.09	2017	3.49	594	165	0.29	6122	10.60	634	321	0.56	15908	27.54
555	58	0.10	2075	3.59	595	145	0.25	6267	10.85	635	340	0.59	16248	28.13
556	49	0.08	2124	3.68	596	179	0.31	6446	11.16	636	379	0.66	16627	28.79

Table A-25. Reading 9 Scale Score Distribution (Continued)

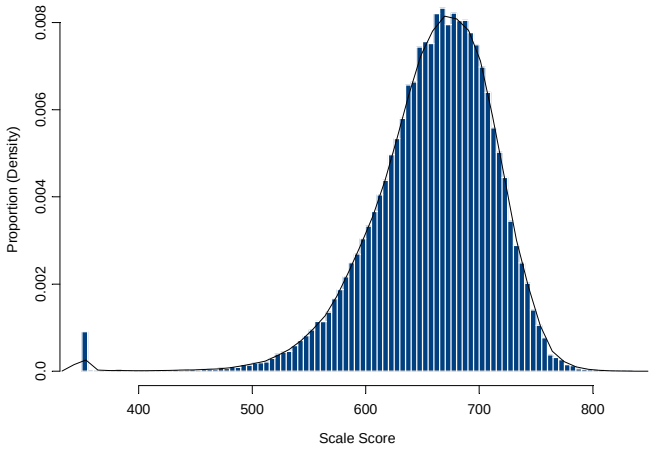
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
637	378	0.65	17005	29.44	677	469	0.81	34594	59.90	717	299	0.52	51159	88.58
638	372	0.64	17377	30.09	678	466	0.81	35060	60.71	718	298	0.52	51457	89.10
639	361	0.63	17738	30.71	679	470	0.81	35530	61.52	719	289	0.50	51746	89.60
640	406	0.70	18144	31.42	680	479	0.83	36009	62.35	720	247	0.43	51993	90.02
641	373	0.65	18517	32.06	681	459	0.79	36468	63.14	721	315	0.55	52308	90.57
642	366	0.63	18883	32.70	682	468	0.81	36936	63.95	722	264	0.46	52572	91.03
643	383	0.66	19266	33.36	683	460	0.80	37396	64.75	723	238	0.41	52810	91.44
644	366	0.63	19632	33.99	684	468	0.81	37864	65.56	724	240	0.42	53050	91.86
645	429	0.74	20061	34.74	685	468	0.81	38332	66.37	725	227	0.39	53277	92.25
646	400	0.69	20461	35.43	686	484	0.84	38816	67.21	726	211	0.37	53488	92.61
647	432	0.75	20893	36.18	687	472	0.82	39288	68.03	727	227	0.39	53715	93.01
648	431	0.75	21324	36.92	688	452	0.78	39740	68.81	728	194	0.34	53909	93.34
649	462	0.80	21786	37.72	689	499	0.86	40239	69.67	729	196	0.34	54105	93.68
650	423	0.73	22209	38.45	690	418	0.72	40657	70.40	730	167	0.29	54272	93.97
651	424	0.73	22633	39.19	691	449	0.78	41106	71.17	731	172	0.30	54444	94.27
652	434	0.75	23067	39.94	692	422	0.73	41528	71.90	732	183	0.32	54627	94.59
653	403	0.70	23470	40.64	693	457	0.79	41985	72.70	733	167	0.29	54794	94.87
654	471	0.82	23941	41.45	694	454	0.79	42439	73.48	734	159	0.28	54953	95.15
655	452	0.78	24393	42.24	695	462	0.80	42901	74.28	735	153	0.26	55106	95.42
656	430	0.74	24823	42.98	696	432	0.75	43333	75.03	736	156	0.27	55262	95.69
657	442	0.77	25265	43.75	697	403	0.70	43736	75.73	737	164	0.28	55426	95.97
658	432	0.75	25697	44.49	698	448	0.78	44184	76.50	738	148	0.26	55574	96.23
659	436	0.75	26133	45.25	699	432	0.75	44616	77.25	739	137	0.24	55711	96.46
660	431	0.75	26564	46.00	700	448	0.78	45064	78.03	740	113	0.20	55824	96.66
661	463	0.80	27027	46.80	701	407	0.70	45471	78.73	741	123	0.21	55947	96.87
662	474	0.82	27501	47.62	702	426	0.74	45897	79.47	742	111	0.19	56058	97.06
663	466	0.81	27967	48.42	703	409	0.71	46306	80.18	743	123	0.21	56181	97.28
664	488	0.84	28455	49.27	704	363	0.63	46669	80.81	744	124	0.21	56305	97.49
665	479	0.83	28934	50.10	705	411	0.71	47080	81.52	745	102	0.18	56407	97.67
666	491	0.85	29425	50.95	706	391	0.68	47471	82.20	746	94	0.16	56501	97.83
667	487	0.84	29912	51.79	707	378	0.65	47849	82.85	747	75	0.13	56576	97.96
668	436	0.75	30348	52.55	708	365	0.63	48214	83.48	748	82	0.14	56658	98.10
669	460	0.80	30808	53.34	709	349	0.60	48563	84.09	749	73	0.13	56731	98.23
670	532	0.92	31340	54.26	710	365	0.63	48928	84.72	750	82	0.14	56813	98.37
671	483	0.84	31823	55.10	711	336	0.58	49264	85.30	751	78	0.14	56891	98.51
672	474	0.82	32297	55.92	712	310	0.54	49574	85.84	752	60	0.10	56951	98.61
673	453	0.78	32750	56.71	713	294	0.51	49868	86.35	753	64	0.11	57015	98.72
674	439	0.76	33189	57.47	714	318	0.55	50186	86.90	754	58	0.10	57073	98.82
675	447	0.77	33636	58.24	715	355	0.61	50541	87.51	755	44	0.08	57117	98.90
676	489	0.85	34125	59.09	716	319	0.55	50860	88.06	756	47	0.08	57164	98.98

Table A-25. Reading 9 Scale Score Distribution (Continued)

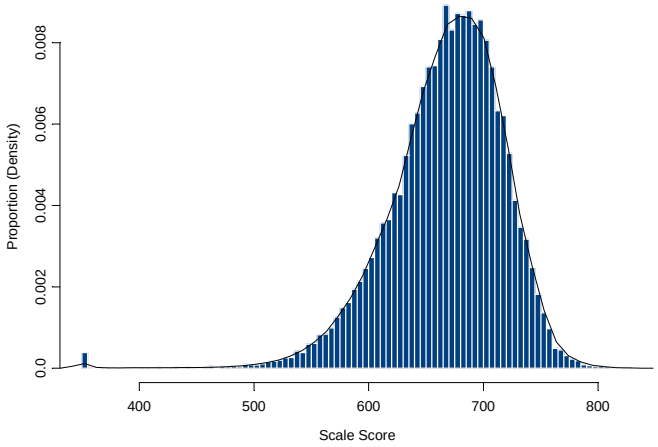
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
757	36	0.06	57200	99.04	799	2	0.00	57732	99.96					
758	61	0.11	57261	99.15	800	1	0.00	57733	99.96					
759	42	0.07	57303	99.22	801	4	0.01	57737	99.97					
760	35	0.06	57338	99.28	802	1	0.00	57738	99.97					
761	25	0.04	57363	99.32	803	2	0.00	57740	99.98					
762	29	0.05	57392	99.37	804	1	0.00	57741	99.98					
763	17	0.03	57409	99.40	805	1	0.00	57742	99.98					
764	20	0.03	57429	99.44	806	3	0.01	57745	99.98					
765	17	0.03	57446	99.47	808	1	0.00	57746	99.99					
766	23	0.04	57469	99.51	809	1	0.00	57747	99.99					
767	18	0.03	57487	99.54	812	1	0.00	57748	99.99					
768	24	0.04	57511	99.58	814	1	0.00	57749	99.99					
769	9	0.02	57520	99.59	819	1	0.00	57750	99.99					
770	17	0.03	57537	99.62	824	2	0.00	57752	100.00					
771	19	0.03	57556	99.66	829	1	0.00	57753	100.00					
772	14	0.02	57570	99.68	831	1	0.00	57754	100.00					
773	13	0.02	57583	99.70										
774	20	0.03	57603	99.74										
775	11	0.02	57614	99.76										
776	8	0.01	57622	99.77										
777	9	0.02	57631	99.79										
778	7	0.01	57638	99.80										
779	11	0.02	57649	99.82										
780	9	0.02	57658	99.83										
781	6	0.01	57664	99.84										
782	3	0.01	57667	99.85										
783	8	0.01	57675	99.86										
784	5	0.01	57680	99.87										
785	15	0.03	57695	99.90										
786	6	0.01	57701	99.91										
787	3	0.01	57704	99.91										
788	5	0.01	57709	99.92										
789	2	0.00	57711	99.93										
791	1	0.00	57712	99.93										
792	3	0.01	57715	99.93										
793	2	0.00	57717	99.94										
794	3	0.01	57720	99.94										
795	3	0.01	57723	99.95										
797	3	0.01	57726	99.95										
798	4	0.01	57730	99.96										

Figure A-25. Reading 9 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Reading 9 Scale Score Distribution (Total)



2005 Reading 9 Scale Score Distribution (Female)



2005 Reading 9 Scale Score Distribution (Male)

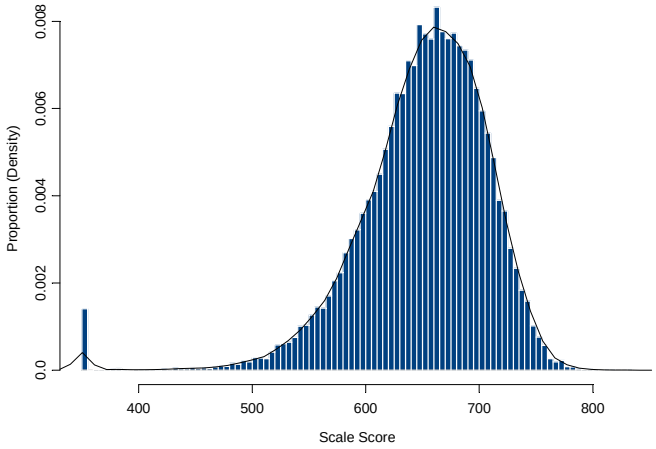


Table A-26. Writing 9 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
260	68	0.12	68	0.12	314	1	0.00	147	0.25	355	7	0.01	352	0.61
261	1	0.00	69	0.12	315	2	0.00	149	0.26	356	11	0.02	363	0.63
264	1	0.00	70	0.12	316	3	0.01	152	0.26	357	14	0.02	377	0.65
265	1	0.00	71	0.12	317	6	0.01	158	0.27	358	9	0.02	386	0.67
266	1	0.00	72	0.12	318	4	0.01	162	0.28	359	9	0.02	395	0.68
269	3	0.01	75	0.13	319	2	0.00	164	0.28	360	11	0.02	406	0.70
270	1	0.00	76	0.13	320	6	0.01	170	0.29	361	6	0.01	412	0.71
274	2	0.00	78	0.14	321	3	0.01	173	0.30	362	9	0.02	421	0.73
277	3	0.01	81	0.14	322	4	0.01	177	0.31	363	12	0.02	433	0.75
278	1	0.00	82	0.14	323	4	0.01	181	0.31	364	12	0.02	445	0.77
279	2	0.00	84	0.15	324	8	0.01	189	0.33	365	12	0.02	457	0.79
280	4	0.01	88	0.15	326	3	0.01	192	0.33	366	8	0.01	465	0.81
282	1	0.00	89	0.15	327	4	0.01	196	0.34	367	13	0.02	478	0.83
283	1	0.00	90	0.16	328	4	0.01	200	0.35	368	9	0.02	487	0.84
284	2	0.00	92	0.16	329	4	0.01	204	0.35	369	11	0.02	498	0.86
285	2	0.00	94	0.16	330	5	0.01	209	0.36	370	19	0.03	517	0.90
286	2	0.00	96	0.17	331	5	0.01	214	0.37	371	13	0.02	530	0.92
287	2	0.00	98	0.17	332	4	0.01	218	0.38	372	12	0.02	542	0.94
288	4	0.01	102	0.18	333	6	0.01	224	0.39	373	20	0.03	562	0.97
290	3	0.01	105	0.18	334	7	0.01	231	0.40	374	15	0.03	577	1.00
291	3	0.01	108	0.19	335	2	0.00	233	0.40	375	12	0.02	589	1.02
292	1	0.00	109	0.19	336	5	0.01	238	0.41	376	13	0.02	602	1.04
294	3	0.01	112	0.19	337	1	0.00	239	0.41	377	15	0.03	617	1.07
295	3	0.01	115	0.20	338	6	0.01	245	0.42	378	16	0.03	633	1.10
296	4	0.01	119	0.21	339	7	0.01	252	0.44	379	18	0.03	651	1.13
297	1	0.00	120	0.21	340	8	0.01	260	0.45	380	21	0.04	672	1.16
298	1	0.00	121	0.21	341	6	0.01	266	0.46	381	27	0.05	699	1.21
299	1	0.00	122	0.21	342	3	0.01	269	0.47	382	21	0.04	720	1.25
300	1	0.00	123	0.21	343	5	0.01	274	0.47	383	14	0.02	734	1.27
301	2	0.00	125	0.22	344	1	0.00	275	0.48	384	22	0.04	756	1.31
302	3	0.01	128	0.22	345	7	0.01	282	0.49	385	34	0.06	790	1.37
303	1	0.00	129	0.22	346	8	0.01	290	0.50	386	25	0.04	815	1.41
304	2	0.00	131	0.23	347	8	0.01	298	0.52	387	25	0.04	840	1.46
307	2	0.00	133	0.23	348	2	0.00	300	0.52	388	24	0.04	864	1.50
308	2	0.00	135	0.23	349	6	0.01	306	0.53	389	22	0.04	886	1.54
309	2	0.00	137	0.24	350	7	0.01	313	0.54	390	32	0.06	918	1.59
310	1	0.00	138	0.24	351	8	0.01	321	0.56	391	28	0.05	946	1.64
311	4	0.01	142	0.25	352	7	0.01	328	0.57	392	19	0.03	965	1.67
312	1	0.00	143	0.25	353	7	0.01	335	0.58	393	28	0.05	993	1.72
313	3	0.01	146	0.25	354	10	0.02	345	0.60	394	24	0.04	1017	1.76

Table A-26. Writing 9 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
395	395	395	395	395	435	61	0.11	2783	4.82	475	114	0.20	6561	11.37
396	396	396	396	396	436	65	0.11	2848	4.94	476	154	0.27	6715	11.64
397	397	397	397	397	437	76	0.13	2924	5.07	477	124	0.21	6839	11.85
398	398	398	398	398	438	72	0.12	2996	5.19	478	150	0.26	6989	12.11
399	399	399	399	399	439	61	0.11	3057	5.30	479	156	0.27	7145	12.38
400	400	400	400	400	440	72	0.12	3129	5.42	480	132	0.23	7277	12.61
401	401	401	401	401	441	63	0.11	3192	5.53	481	135	0.23	7412	12.85
402	402	402	402	402	442	74	0.13	3266	5.66	482	164	0.28	7576	13.13
403	403	403	403	403	443	72	0.12	3338	5.78	483	161	0.28	7737	13.41
404	404	404	404	404	444	79	0.14	3417	5.92	484	148	0.26	7885	13.66
405	405	405	405	405	445	76	0.13	3493	6.05	485	143	0.25	8028	13.91
406	406	406	406	406	446	76	0.13	3569	6.19	486	152	0.26	8180	14.18
407	407	407	407	407	447	80	0.14	3649	6.32	487	138	0.24	8318	14.42
408	408	408	408	408	448	82	0.14	3731	6.47	488	138	0.24	8456	14.65
409	409	409	409	409	449	93	0.16	3824	6.63	489	151	0.26	8607	14.92
410	410	410	410	410	450	83	0.14	3907	6.77	490	194	0.34	8801	15.25
411	411	411	411	411	451	83	0.14	3990	6.91	491	166	0.29	8967	15.54
412	412	412	412	412	452	78	0.14	4068	7.05	492	178	0.31	9145	15.85
413	413	413	413	413	453	91	0.16	4159	7.21	493	166	0.29	9311	16.14
414	414	414	414	414	454	97	0.17	4256	7.38	494	182	0.32	9493	16.45
415	415	415	415	415	455	91	0.16	4347	7.53	495	151	0.26	9644	16.71
416	416	416	416	416	456	89	0.15	4436	7.69	496	161	0.28	9805	16.99
417	417	417	417	417	457	92	0.16	4528	7.85	497	189	0.33	9994	17.32
418	418	418	418	418	458	101	0.18	4629	8.02	498	173	0.30	10167	17.62
419	419	419	419	419	459	101	0.18	4730	8.20	499	168	0.29	10335	17.91
420	420	420	420	420	460	90	0.16	4820	8.35	500	173	0.30	10508	18.21
421	421	421	421	421	461	99	0.17	4919	8.52	501	197	0.34	10705	18.55
422	422	422	422	422	462	107	0.19	5026	8.71	502	196	0.34	10901	18.89
423	423	423	423	423	463	109	0.19	5135	8.90	503	181	0.31	11082	19.21
424	424	424	424	424	464	94	0.16	5229	9.06	504	204	0.35	11286	19.56
425	425	425	425	425	465	119	0.21	5348	9.27	505	204	0.35	11490	19.91
426	426	426	426	426	466	116	0.20	5464	9.47	506	206	0.36	11696	20.27
427	427	427	427	427	467	136	0.24	5600	9.70	507	217	0.38	11913	20.65
428	428	428	428	428	468	105	0.18	5705	9.89	508	207	0.36	12120	21.00
429	429	429	429	429	469	113	0.20	5818	10.08	509	189	0.33	12309	21.33
430	430	430	430	430	470	122	0.21	5940	10.29	510	192	0.33	12501	21.66
431	431	431	431	431	471	119	0.21	6059	10.50	511	185	0.32	12686	21.98
432	432	432	432	432	472	131	0.23	6190	10.73	512	191	0.33	12877	22.32
433	433	433	433	433	473	133	0.23	6323	10.96	513	215	0.37	13092	22.69
434	434	434	434	434	474	124	0.21	6447	11.17	514	224	0.39	13316	23.08

Table A-26. Writing 9 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
515	232	0.40	13548	23.48	555	329	0.57	24412	42.31	595	306	0.53	37118	64.33
516	229	0.40	13777	23.88	556	307	0.53	24719	42.84	596	334	0.58	37452	64.90
517	229	0.40	14006	24.27	557	259	0.45	24978	43.29	597	292	0.51	37744	65.41
518	234	0.41	14240	24.68	558	310	0.54	25288	43.82	598	334	0.58	38078	65.99
519	211	0.37	14451	25.04	559	313	0.54	25601	44.37	599	308	0.53	38386	66.52
520	238	0.41	14689	25.46	560	324	0.56	25925	44.93	600	285	0.49	38671	67.02
521	230	0.40	14919	25.85	561	303	0.53	26228	45.45	601	314	0.54	38985	67.56
522	232	0.40	15151	26.26	562	322	0.56	26550	46.01	602	323	0.56	39308	68.12
523	232	0.40	15383	26.66	563	317	0.55	26867	46.56	603	305	0.53	39613	68.65
524	248	0.43	15631	27.09	564	318	0.55	27185	47.11	604	301	0.52	39914	69.17
525	230	0.40	15861	27.49	565	290	0.50	27475	47.61	605	274	0.47	40188	69.65
526	241	0.42	16102	27.90	566	296	0.51	27771	48.13	606	269	0.47	40457	70.11
527	268	0.46	16370	28.37	567	321	0.56	28092	48.68	607	285	0.49	40742	70.61
528	237	0.41	16607	28.78	568	300	0.52	28392	49.20	608	303	0.53	41045	71.13
529	260	0.45	16867	29.23	569	349	0.60	28741	49.81	609	300	0.52	41345	71.65
530	274	0.47	17141	29.71	570	301	0.52	29042	50.33	610	261	0.45	41606	72.10
531	272	0.47	17413	30.18	571	322	0.56	29364	50.89	611	300	0.52	41906	72.62
532	252	0.44	17665	30.61	572	323	0.56	29687	51.45	612	252	0.44	42158	73.06
533	252	0.44	17917	31.05	573	337	0.58	30024	52.03	613	283	0.49	42441	73.55
534	287	0.50	18204	31.55	574	329	0.57	30353	52.60	614	266	0.46	42707	74.01
535	255	0.44	18459	31.99	575	302	0.52	30655	53.13	615	283	0.49	42990	74.50
536	256	0.44	18715	32.43	576	349	0.60	31004	53.73	616	254	0.44	43244	74.94
537	282	0.49	18997	32.92	577	325	0.56	31329	54.29	617	248	0.43	43492	75.37
538	268	0.46	19265	33.39	578	301	0.52	31630	54.82	618	235	0.41	43727	75.78
539	285	0.49	19550	33.88	579	341	0.59	31971	55.41	619	233	0.40	43960	76.18
540	249	0.43	19799	34.31	580	321	0.56	32292	55.96	620	249	0.43	44209	76.61
541	310	0.54	20109	34.85	581	337	0.58	32629	56.55	621	256	0.44	44465	77.06
542	312	0.54	20421	35.39	582	322	0.56	32951	57.10	622	263	0.46	44728	77.51
543	276	0.48	20697	35.87	583	333	0.58	33284	57.68	623	256	0.44	44984	77.96
544	274	0.47	20971	36.34	584	332	0.58	33616	58.26	624	241	0.42	45225	78.38
545	316	0.55	21287	36.89	585	354	0.61	33970	58.87	625	221	0.38	45446	78.76
546	292	0.51	21579	37.40	586	319	0.55	34289	59.42	626	235	0.41	45681	79.17
547	276	0.48	21855	37.87	587	283	0.49	34572	59.91	627	227	0.39	45908	79.56
548	344	0.60	22199	38.47	588	297	0.51	34869	60.43	628	227	0.39	46135	79.95
549	330	0.57	22529	39.04	589	336	0.58	35205	61.01	629	215	0.37	46350	80.33
550	313	0.54	22842	39.59	590	354	0.61	35559	61.62	630	222	0.38	46572	80.71
551	324	0.56	23166	40.15	591	314	0.54	35873	62.17	631	253	0.44	46825	81.15
552	330	0.57	23496	40.72	592	309	0.54	36182	62.70	632	214	0.37	47039	81.52
553	271	0.47	23767	41.19	593	313	0.54	36495	63.25	633	200	0.35	47239	81.87
554	316	0.55	24083	41.74	594	317	0.55	36812	63.80	634	225	0.39	47464	82.26

Table A-26. Writing 9 Scale Score Distribution (Continued)

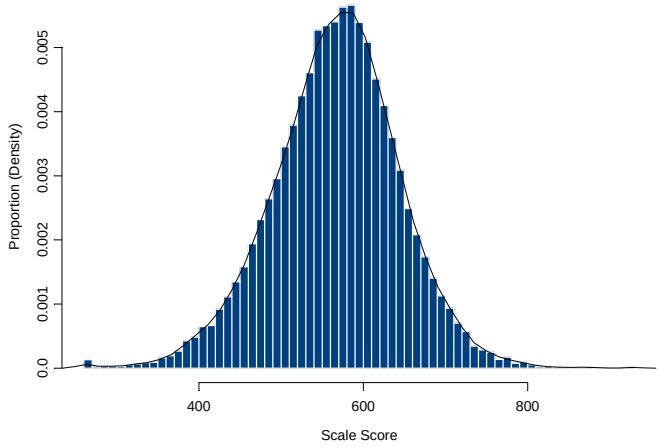
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
635	191	0.33	47655	82.59	675	96	0.17	53602	92.89	715	33	0.06	56295	97.56
636	200	0.35	47855	82.93	676	98	0.17	53700	93.06	716	38	0.07	56333	97.63
637	200	0.35	48055	83.28	677	100	0.17	53800	93.24	717	38	0.07	56371	97.69
638	189	0.33	48244	83.61	678	83	0.14	53883	93.38	718	29	0.05	56400	97.74
639	196	0.34	48440	83.95	679	90	0.16	53973	93.54	719	35	0.06	56435	97.80
640	208	0.36	48648	84.31	680	96	0.17	54069	93.70	720	39	0.07	56474	97.87
641	177	0.31	48825	84.61	681	77	0.13	54146	93.84	721	38	0.07	56512	97.94
642	196	0.34	49021	84.95	682	97	0.17	54243	94.00	722	27	0.05	56539	97.98
643	175	0.30	49196	85.26	683	97	0.17	54340	94.17	723	29	0.05	56568	98.03
644	175	0.30	49371	85.56	684	100	0.17	54440	94.35	724	48	0.08	56616	98.12
645	179	0.31	49550	85.87	685	86	0.15	54526	94.49	725	52	0.09	56668	98.21
646	202	0.35	49752	86.22	686	71	0.12	54597	94.62	726	24	0.04	56692	98.25
647	178	0.31	49930	86.53	687	71	0.12	54668	94.74	727	41	0.07	56733	98.32
648	161	0.28	50091	86.81	688	72	0.12	54740	94.87	728	21	0.04	56754	98.36
649	182	0.32	50273	87.12	689	71	0.12	54811	94.99	729	30	0.05	56784	98.41
650	157	0.27	50430	87.40	690	68	0.12	54879	95.11	730	19	0.03	56803	98.44
651	162	0.28	50592	87.68	691	58	0.10	54937	95.21	731	14	0.02	56817	98.46
652	148	0.26	50740	87.93	692	70	0.12	55007	95.33	732	21	0.04	56838	98.50
653	153	0.27	50893	88.20	693	60	0.10	55067	95.43	733	14	0.02	56852	98.53
654	163	0.28	51056	88.48	694	58	0.10	55125	95.53	734	22	0.04	56874	98.56
655	133	0.23	51189	88.71	695	74	0.13	55199	95.66	735	26	0.05	56900	98.61
656	150	0.26	51339	88.97	696	77	0.13	55276	95.79	736	10	0.02	56910	98.63
657	130	0.23	51469	89.20	697	70	0.12	55346	95.92	737	20	0.03	56930	98.66
658	129	0.22	51598	89.42	698	64	0.11	55410	96.03	738	11	0.02	56941	98.68
659	141	0.24	51739	89.66	699	61	0.11	55471	96.13	739	38	0.07	56979	98.75
660	128	0.22	51867	89.89	700	59	0.10	55530	96.23	740	23	0.04	57002	98.79
661	126	0.22	51993	90.10	701	65	0.11	55595	96.35	741	30	0.05	57032	98.84
662	116	0.20	52109	90.31	702	51	0.09	55646	96.44	742	19	0.03	57051	98.87
663	130	0.23	52239	90.53	703	58	0.10	55704	96.54	743	13	0.02	57064	98.89
664	130	0.23	52369	90.76	704	51	0.09	55755	96.62	744	14	0.02	57078	98.92
665	118	0.20	52487	90.96	705	51	0.09	55806	96.71	745	16	0.03	57094	98.94
666	128	0.22	52615	91.18	706	55	0.10	55861	96.81	746	9	0.02	57103	98.96
667	114	0.20	52729	91.38	707	59	0.10	55920	96.91	747	15	0.03	57118	98.99
668	116	0.20	52845	91.58	708	58	0.10	55978	97.01	748	16	0.03	57134	99.01
669	105	0.18	52950	91.76	709	49	0.08	56027	97.10	749	13	0.02	57147	99.04
670	117	0.20	53067	91.97	710	42	0.07	56069	97.17	750	20	0.03	57167	99.07
671	117	0.20	53184	92.17	711	45	0.08	56114	97.25	751	14	0.02	57181	99.10
672	110	0.19	53294	92.36	712	56	0.10	56170	97.34	752	17	0.03	57198	99.12
673	102	0.18	53396	92.54	713	41	0.07	56211	97.41	753	10	0.02	57208	99.14
674	110	0.19	53506	92.73	714	51	0.09	56262	97.50	754	8	0.01	57216	99.16

Table A-26. Writing 9 Scale Score Distribution (Continued)

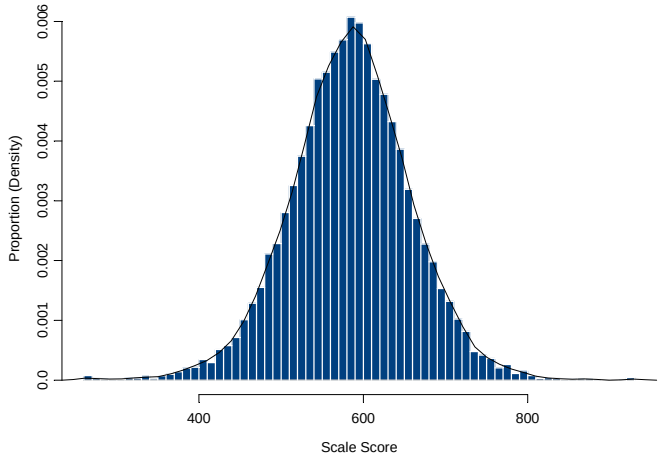
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
755	25	0.04	57241	99.20	795	28	0.05	57568	99.77	864	2	0.00	57668	99.94
756	12	0.02	57253	99.22	796	4	0.01	57572	99.77	869	5	0.01	57673	99.95
757	20	0.03	57273	99.25	797	4	0.01	57576	99.78	871	5	0.01	57678	99.96
758	19	0.03	57292	99.29	798	4	0.01	57580	99.79	872	2	0.00	57680	99.96
759	14	0.02	57306	99.31	799	4	0.01	57584	99.79	873	1	0.00	57681	99.96
760	5	0.01	57311	99.32	800	4	0.01	57588	99.80	875	1	0.00	57682	99.96
761	10	0.02	57321	99.34	801	3	0.01	57591	99.81	876	1	0.00	57683	99.97
762	9	0.02	57330	99.35	802	2	0.00	57593	99.81	877	3	0.01	57686	99.97
763	5	0.01	57335	99.36	803	7	0.01	57600	99.82	881	1	0.00	57687	99.97
764	8	0.01	57343	99.38	804	2	0.00	57602	99.82	885	1	0.00	57688	99.97
765	5	0.01	57348	99.38	805	1	0.00	57603	99.83	896	1	0.00	57689	99.98
766	10	0.02	57358	99.40	806	2	0.00	57605	99.83	920	1	0.00	57690	99.98
767	6	0.01	57364	99.41	807	3	0.01	57608	99.84	930	13	0.02	57703	100.00
768	8	0.01	57372	99.43	808	3	0.01	57611	99.84					
769	11	0.02	57383	99.45	809	5	0.01	57616	99.85					
770	6	0.01	57389	99.46	810	2	0.00	57618	99.85					
771	10	0.02	57399	99.47	811	2	0.00	57620	99.86					
772	4	0.01	57403	99.48	812	2	0.00	57622	99.86					
773	11	0.02	57414	99.50	813	2	0.00	57624	99.86					
774	13	0.02	57427	99.52	816	3	0.01	57627	99.87					
775	18	0.03	57445	99.55	817	2	0.00	57629	99.87					
776	11	0.02	57456	99.57	819	1	0.00	57630	99.87					
777	9	0.02	57465	99.59	820	1	0.00	57631	99.88					
778	8	0.01	57473	99.60	824	1	0.00	57632	99.88					
779	8	0.01	57481	99.62	825	8	0.01	57640	99.89					
780	7	0.01	57488	99.63	826	3	0.01	57643	99.90					
781	4	0.01	57492	99.63	829	3	0.01	57646	99.90					
782	6	0.01	57498	99.64	831	1	0.00	57647	99.90					
783	5	0.01	57503	99.65	832	1	0.00	57648	99.90					
784	3	0.01	57506	99.66	833	2	0.00	57650	99.91					
785	9	0.02	57515	99.67	834	2	0.00	57652	99.91					
786	3	0.01	57518	99.68	836	1	0.00	57653	99.91					
787	4	0.01	57522	99.69	837	2	0.00	57655	99.92					
788	2	0.00	57524	99.69	844	1	0.00	57656	99.92					
789	5	0.01	57529	99.70	845	1	0.00	57657	99.92					
790	3	0.01	57532	99.70	846	3	0.01	57660	99.93					
791	3	0.01	57535	99.71	850	1	0.00	57661	99.93					
792	2	0.00	57537	99.71	851	1	0.00	57662	99.93					
793	1	0.00	57538	99.71	852	2	0.00	57664	99.93					
794	2	0.00	57540	99.72	857	2	0.00	57666	99.94					

Figure A-26. Writing 9 Scale Score Distributions for the Total Population, Female, and Male Students

2005 Writing 9 Scale Score Distribution (Total)



2005 Writing 9 Scale Score Distribution (Female)



2005 Writing 9 Scale Score Distribution (Male)

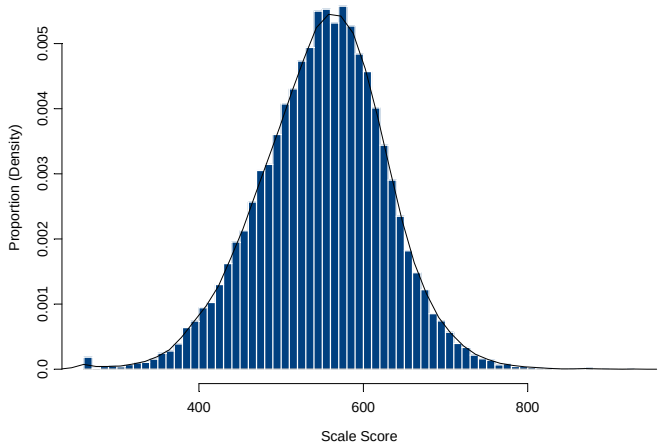


Table A-27. Math 10 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
370	868	1.67	868	1.67	410	22	0.04	1464	2.82	450	44	0.08	2646	5.10
371	5	0.01	873	1.68	411	25	0.05	1489	2.87	451	42	0.08	2688	5.18
372	21	0.04	894	1.72	412	15	0.03	1504	2.90	452	44	0.08	2732	5.27
373	9	0.02	903	1.74	413	16	0.03	1520	2.93	453	42	0.08	2774	5.35
374	10	0.02	913	1.76	414	20	0.04	1540	2.97	454	51	0.10	2825	5.45
375	13	0.03	926	1.79	415	22	0.04	1562	3.01	455	54	0.10	2879	5.55
376	19	0.04	945	1.82	416	22	0.04	1584	3.06	456	50	0.10	2929	5.65
377	13	0.03	958	1.85	417	23	0.04	1607	3.10	457	39	0.08	2968	5.72
378	9	0.02	967	1.87	418	18	0.03	1625	3.13	458	48	0.09	3016	5.82
379	6	0.01	973	1.88	419	26	0.05	1651	3.18	459	47	0.09	3063	5.91
380	21	0.04	994	1.92	420	27	0.05	1678	3.24	460	80	0.15	3143	6.06
381	13	0.03	1007	1.94	421	20	0.04	1698	3.28	461	42	0.08	3185	6.14
382	12	0.02	1019	1.97	422	23	0.04	1721	3.32	462	46	0.09	3231	6.23
383	10	0.02	1029	1.98	423	31	0.06	1752	3.38	463	49	0.09	3280	6.33
384	13	0.03	1042	2.01	424	23	0.04	1775	3.42	464	77	0.15	3357	6.48
385	19	0.04	1061	2.05	425	28	0.05	1803	3.48	465	67	0.13	3424	6.60
386	12	0.02	1073	2.07	426	26	0.05	1829	3.53	466	58	0.11	3482	6.72
387	14	0.03	1087	2.10	427	21	0.04	1850	3.57	467	75	0.14	3557	6.86
388	16	0.03	1103	2.13	428	35	0.07	1885	3.64	468	71	0.14	3628	7.00
389	16	0.03	1119	2.16	429	38	0.07	1923	3.71	469	76	0.15	3704	7.14
390	11	0.02	1130	2.18	430	34	0.07	1957	3.77	470	53	0.10	3757	7.25
391	16	0.03	1146	2.21	431	28	0.05	1985	3.83	471	55	0.11	3812	7.35
392	15	0.03	1161	2.24	432	29	0.06	2014	3.88	472	64	0.12	3876	7.48
393	14	0.03	1175	2.27	433	37	0.07	2051	3.96	473	65	0.13	3941	7.60
394	13	0.03	1188	2.29	434	25	0.05	2076	4.00	474	94	0.18	4035	7.78
395	12	0.02	1200	2.31	435	32	0.06	2108	4.07	475	83	0.16	4118	7.94
396	15	0.03	1215	2.34	436	36	0.07	2144	4.14	476	68	0.13	4186	8.07
397	11	0.02	1226	2.36	437	37	0.07	2181	4.21	477	77	0.15	4263	8.22
398	14	0.03	1240	2.39	438	35	0.07	2216	4.27	478	80	0.15	4343	8.38
399	10	0.02	1250	2.41	439	27	0.05	2243	4.33	479	62	0.12	4405	8.50
400	19	0.04	1269	2.45	440	34	0.07	2277	4.39	480	83	0.16	4488	8.66
401	15	0.03	1284	2.48	441	33	0.06	2310	4.46	481	83	0.16	4571	8.82
402	20	0.04	1304	2.52	442	37	0.07	2347	4.53	482	83	0.16	4654	8.98
403	18	0.03	1322	2.55	443	33	0.06	2380	4.59	483	79	0.15	4733	9.13
404	22	0.04	1344	2.59	444	35	0.07	2415	4.66	484	80	0.15	4813	9.28
405	19	0.04	1363	2.63	445	34	0.07	2449	4.72	485	94	0.18	4907	9.46
406	17	0.03	1380	2.66	446	41	0.08	2490	4.80	486	96	0.19	5003	9.65
407	19	0.04	1399	2.70	447	35	0.07	2525	4.87	487	92	0.18	5095	9.83
408	18	0.03	1417	2.73	448	36	0.07	2561	4.94	488	82	0.16	5177	9.99
409	25	0.05	1442	2.78	449	41	0.08	2602	5.02	489	90	0.17	5267	10.16

Table A-27. Math 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
490	97	0.19	5364	10.35	530	173	0.33	10752	20.74	570	272	0.52	19613	37.83
491	97	0.19	5461	10.53	531	161	0.31	10913	21.05	571	266	0.51	19879	38.34
492	101	0.19	5562	10.73	532	185	0.36	11098	21.41	572	268	0.52	20147	38.86
493	90	0.17	5652	10.90	533	174	0.34	11272	21.74	573	259	0.50	20406	39.36
494	76	0.15	5728	11.05	534	192	0.37	11464	22.11	574	252	0.49	20658	39.85
495	115	0.22	5843	11.27	535	190	0.37	11654	22.48	575	293	0.57	20951	40.41
496	101	0.19	5944	11.46	536	199	0.38	11853	22.86	576	256	0.49	21207	40.90
497	102	0.20	6046	11.66	537	181	0.35	12034	23.21	577	306	0.59	21513	41.49
498	128	0.25	6174	11.91	538	195	0.38	12229	23.59	578	286	0.55	21799	42.05
499	120	0.23	6294	12.14	539	199	0.38	12428	23.97	579	301	0.58	22100	42.63
500	118	0.23	6412	12.37	540	210	0.41	12638	24.38	580	248	0.48	22348	43.11
501	110	0.21	6522	12.58	541	188	0.36	12826	24.74	581	304	0.59	22652	43.69
502	132	0.25	6654	12.83	542	204	0.39	13030	25.13	582	281	0.54	22933	44.23
503	115	0.22	6769	13.06	543	180	0.35	13210	25.48	583	275	0.53	23208	44.76
504	96	0.19	6865	13.24	544	195	0.38	13405	25.86	584	279	0.54	23487	45.30
505	118	0.23	6983	13.47	545	204	0.39	13609	26.25	585	269	0.52	23756	45.82
506	139	0.27	7122	13.74	546	208	0.40	13817	26.65	586	270	0.52	24026	46.34
507	135	0.26	7257	14.00	547	189	0.36	14006	27.02	587	271	0.52	24297	46.86
508	139	0.27	7396	14.27	548	223	0.43	14229	27.45	588	265	0.51	24562	47.38
509	129	0.25	7525	14.51	549	213	0.41	14442	27.86	589	276	0.53	24838	47.91
510	131	0.25	7656	14.77	550	216	0.42	14658	28.27	590	306	0.59	25144	48.50
511	159	0.31	7815	15.07	551	253	0.49	14911	28.76	591	280	0.54	25424	49.04
512	133	0.26	7948	15.33	552	212	0.41	15123	29.17	592	292	0.56	25716	49.60
513	133	0.26	8081	15.59	553	234	0.45	15357	29.62	593	294	0.57	26010	50.17
514	143	0.28	8224	15.86	554	229	0.44	15586	30.06	594	271	0.52	26281	50.69
515	135	0.26	8359	16.12	555	237	0.46	15823	30.52	595	305	0.59	26586	51.28
516	143	0.28	8502	16.40	556	226	0.44	16049	30.96	596	293	0.57	26879	51.84
517	161	0.31	8663	16.71	557	231	0.45	16280	31.40	597	287	0.55	27166	52.40
518	132	0.25	8795	16.96	558	279	0.54	16559	31.94	598	301	0.58	27467	52.98
519	180	0.35	8975	17.31	559	263	0.51	16822	32.45	599	317	0.61	27784	53.59
520	146	0.28	9121	17.59	560	233	0.45	17055	32.90	600	281	0.54	28065	54.13
521	148	0.29	9269	17.88	561	245	0.47	17300	33.37	601	317	0.61	28382	54.74
522	142	0.27	9411	18.15	562	233	0.45	17533	33.82	602	324	0.62	28706	55.37
523	159	0.31	9570	18.46	563	262	0.51	17795	34.32	603	274	0.53	28980	55.90
524	156	0.30	9726	18.76	564	255	0.49	18050	34.82	604	301	0.58	29281	56.48
525	154	0.30	9880	19.06	565	273	0.53	18323	35.34	605	280	0.54	29561	57.02
526	163	0.31	10043	19.37	566	240	0.46	18563	35.80	606	330	0.64	29891	57.65
527	181	0.35	10224	19.72	567	259	0.50	18822	36.30	607	298	0.57	30189	58.23
528	172	0.33	10396	20.05	568	249	0.48	19071	36.78	608	288	0.56	30477	58.78
529	183	0.35	10579	20.41	569	270	0.52	19341	37.31	609	266	0.51	30743	59.30

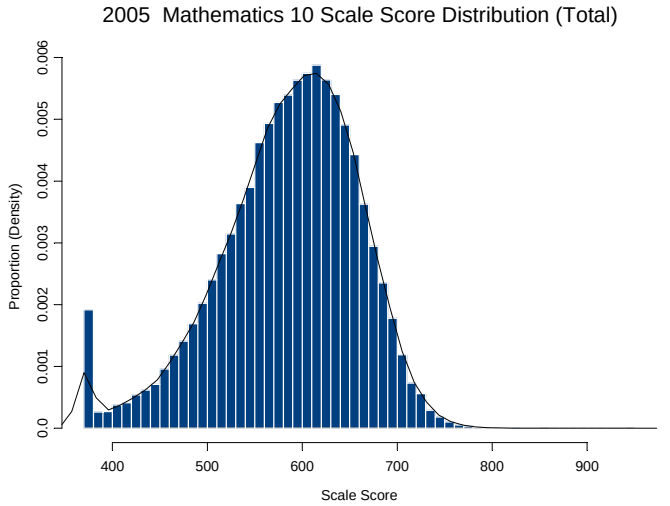
Table A-27. Math 10 Scale Score Distribution (Continued)

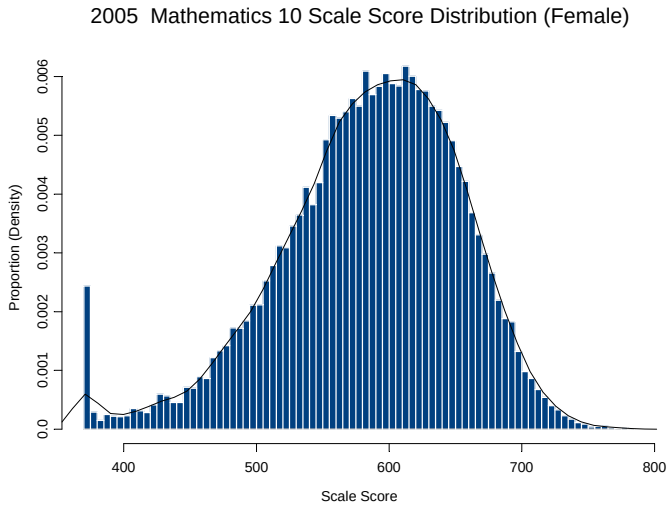
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
610	300	0.58	31043	59.88	650	251	0.48	42358	81.70	690	107	0.21	49281	95.05
611	313	0.60	31356	60.48	651	238	0.46	42596	82.16	691	114	0.22	49395	95.27
612	317	0.61	31673	61.09	652	215	0.41	42811	82.57	692	100	0.19	49495	95.47
613	312	0.60	31985	61.69	653	235	0.45	43046	83.03	693	108	0.21	49603	95.68
614	287	0.55	32272	62.25	654	268	0.52	43314	83.55	694	90	0.17	49693	95.85
615	285	0.55	32557	62.80	655	218	0.42	43532	83.97	695	93	0.18	49786	96.03
616	323	0.62	32880	63.42	656	235	0.45	43767	84.42	696	84	0.16	49870	96.19
617	282	0.54	33162	63.96	657	260	0.50	44027	84.92	697	87	0.17	49957	96.36
618	311	0.60	33473	64.56	658	198	0.38	44225	85.30	698	95	0.18	50052	96.54
619	308	0.59	33781	65.16	659	242	0.47	44467	85.77	699	69	0.13	50121	96.67
620	309	0.60	34090	65.75	660	187	0.36	44654	86.13	700	82	0.16	50203	96.83
621	302	0.58	34392	66.34	661	200	0.39	44854	86.52	701	71	0.14	50274	96.97
622	277	0.53	34669	66.87	662	183	0.35	45037	86.87	702	68	0.13	50342	97.10
623	274	0.53	34943	67.40	663	208	0.40	45245	87.27	703	58	0.11	50400	97.21
624	302	0.58	35245	67.98	664	200	0.39	45445	87.66	704	61	0.12	50461	97.33
625	302	0.58	35547	68.56	665	184	0.35	45629	88.01	705	63	0.12	50524	97.45
626	303	0.58	35850	69.15	666	198	0.38	45827	88.39	706	62	0.12	50586	97.57
627	270	0.52	36120	69.67	667	194	0.37	46021	88.77	707	56	0.11	50642	97.68
628	311	0.60	36431	70.27	668	193	0.37	46214	89.14	708	65	0.13	50707	97.80
629	280	0.54	36711	70.81	669	151	0.29	46365	89.43	709	65	0.13	50772	97.93
630	302	0.58	37013	71.39	670	169	0.33	46534	89.76	710	48	0.09	50820	98.02
631	293	0.57	37306	71.96	671	169	0.33	46703	90.08	711	36	0.07	50856	98.09
632	283	0.55	37589	72.50	672	146	0.28	46849	90.36	712	45	0.09	50901	98.18
633	277	0.53	37866	73.04	673	164	0.32	47013	90.68	713	47	0.09	50948	98.27
634	290	0.56	38156	73.60	674	160	0.31	47173	90.99	714	36	0.07	50984	98.34
635	271	0.52	38427	74.12	675	159	0.31	47332	91.30	715	41	0.08	51025	98.42
636	283	0.55	38710	74.66	676	150	0.29	47482	91.58	716	38	0.07	51063	98.49
637	267	0.51	38977	75.18	677	159	0.31	47641	91.89	717	38	0.07	51101	98.56
638	277	0.53	39254	75.71	678	141	0.27	47782	92.16	718	39	0.08	51140	98.64
639	280	0.54	39534	76.25	679	140	0.27	47922	92.43	719	27	0.05	51167	98.69
640	280	0.54	39814	76.79	680	139	0.27	48061	92.70	720	32	0.06	51199	98.75
641	282	0.54	40096	77.34	681	157	0.30	48218	93.00	721	29	0.06	51228	98.81
642	252	0.49	40348	77.82	682	116	0.22	48334	93.23	722	35	0.07	51263	98.88
643	258	0.50	40606	78.32	683	132	0.25	48466	93.48	723	27	0.05	51290	98.93
644	245	0.47	40851	78.79	684	119	0.23	48585	93.71	724	26	0.05	51316	98.98
645	262	0.51	41113	79.30	685	115	0.22	48700	93.93	725	33	0.06	51349	99.04
646	227	0.44	41340	79.74	686	128	0.25	48828	94.18	726	34	0.07	51383	99.11
647	258	0.50	41598	80.24	687	112	0.22	48940	94.40	727	32	0.06	51415	99.17
648	268	0.52	41866	80.75	688	115	0.22	49055	94.62	728	32	0.06	51447	99.23
649	241	0.46	42107	81.22	689	119	0.23	49174	94.85	729	20	0.04	51467	99.27

Table A-27. Math 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
730	21	0.04	51488	99.31	770	2	0.00	51811	99.93					
731	23	0.04	51511	99.36	771	2	0.00	51813	99.94					
732	14	0.03	51525	99.38	772	4	0.01	51817	99.95					
733	24	0.05	51549	99.43	773	2	0.00	51819	99.95					
734	12	0.02	51561	99.45	774	2	0.00	51821	99.95					
735	12	0.02	51573	99.48	776	1	0.00	51822	99.96					
736	12	0.02	51585	99.50	777	2	0.00	51824	99.96					
737	14	0.03	51599	99.53	778	3	0.01	51827	99.97					
738	16	0.03	51615	99.56	780	2	0.00	51829	99.97					
739	10	0.02	51625	99.58	782	1	0.00	51830	99.97					
740	13	0.03	51638	99.60	783	1	0.00	51831	99.97					
741	9	0.02	51647	99.62	784	2	0.00	51833	99.98					
742	13	0.03	51660	99.64	785	1	0.00	51834	99.98					
743	6	0.01	51666	99.65	786	1	0.00	51835	99.98					
744	14	0.03	51680	99.68	790	1	0.00	51836	99.98					
745	9	0.02	51689	99.70	795	1	0.00	51837	99.98					
746	10	0.02	51699	99.72	797	1	0.00	51838	99.99					
747	9	0.02	51708	99.74	804	1	0.00	51839	99.99					
748	13	0.03	51721	99.76	805	1	0.00	51840	99.99					
749	6	0.01	51727	99.77	806	2	0.00	51842	99.99					
750	6	0.01	51733	99.78	829	1	0.00	51843	100.00					
751	5	0.01	51738	99.79	851	1	0.00	51844	100.00					
752	5	0.01	51743	99.80	950	1	0.00	51845	100.00					
753	8	0.02	51751	99.82										
754	3	0.01	51754	99.82										
755	7	0.01	51761	99.84										
756	7	0.01	51768	99.85										
757	4	0.01	51772	99.86										
758	3	0.01	51775	99.86										
759	4	0.01	51779	99.87										
760	6	0.01	51785	99.88										
761	6	0.01	51791	99.90										
762	1	0.00	51792	99.90										
763	3	0.01	51795	99.90										
764	2	0.00	51797	99.91										
765	1	0.00	51798	99.91										
766	6	0.01	51804	99.92										
767	2	0.00	51806	99.92										
768	1	0.00	51807	99.93										
769	2	0.00	51809	99.93										

Figure A-27. Math 10 Scale Score Distributions for the Total Population, Female, and Male Students





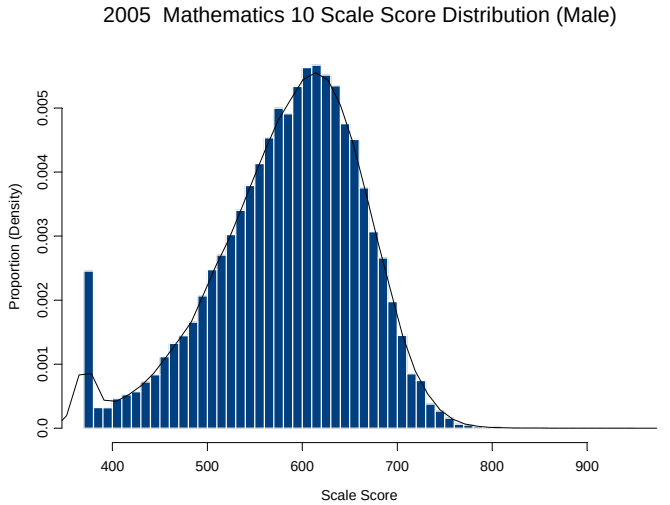


Table A-28. Reading 10 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
370	211	0.41	211	0.41	430	1	0.00	273	0.53	482	4	0.01	347	0.67
371	1	0.00	212	0.41	431	1	0.00	274	0.53	483	3	0.01	350	0.68
372	3	0.01	215	0.42	432	1	0.00	275	0.53	484	2	0.00	352	0.68
374	1	0.00	216	0.42	433	3	0.01	278	0.54	485	3	0.01	355	0.69
375	1	0.00	217	0.42	434	3	0.01	281	0.54	486	3	0.01	358	0.69
376	3	0.01	220	0.43	435	1	0.00	282	0.55	487	4	0.01	362	0.70
377	2	0.00	222	0.43	436	1	0.00	283	0.55	488	5	0.01	367	0.71
378	2	0.00	224	0.43	438	1	0.00	284	0.55	489	6	0.01	373	0.72
380	1	0.00	225	0.44	439	1	0.00	285	0.55	490	2	0.00	375	0.73
383	2	0.00	227	0.44	440	2	0.00	287	0.56	491	2	0.00	377	0.73
384	1	0.00	228	0.44	442	2	0.00	289	0.56	492	5	0.01	382	0.74
385	1	0.00	229	0.44	443	2	0.00	291	0.56	493	2	0.00	384	0.74
387	4	0.01	233	0.45	446	2	0.00	293	0.57	494	5	0.01	389	0.75
389	1	0.00	234	0.45	449	1	0.00	294	0.57	495	6	0.01	395	0.76
391	1	0.00	235	0.45	450	1	0.00	295	0.57	496	1	0.00	396	0.77
394	1	0.00	236	0.46	452	2	0.00	297	0.57	497	4	0.01	400	0.77
395	1	0.00	237	0.46	453	2	0.00	299	0.58	498	2	0.00	402	0.78
398	1	0.00	238	0.46	454	2	0.00	301	0.58	499	8	0.02	410	0.79
399	2	0.00	240	0.46	457	1	0.00	302	0.58	500	4	0.01	414	0.80
401	2	0.00	242	0.47	458	1	0.00	303	0.59	501	6	0.01	420	0.81
403	1	0.00	243	0.47	459	2	0.00	305	0.59	502	10	0.02	430	0.83
404	1	0.00	244	0.47	460	3	0.01	308	0.60	503	11	0.02	441	0.85
407	1	0.00	245	0.47	462	2	0.00	310	0.60	504	8	0.02	449	0.87
408	1	0.00	246	0.48	463	1	0.00	311	0.60	505	9	0.02	458	0.89
413	1	0.00	247	0.48	464	2	0.00	313	0.61	506	5	0.01	463	0.90
414	2	0.00	249	0.48	466	2	0.00	315	0.61	507	3	0.01	466	0.90
415	1	0.00	250	0.48	467	3	0.01	318	0.62	508	7	0.01	473	0.91
416	1	0.00	251	0.49	468	2	0.00	320	0.62	509	9	0.02	482	0.93
417	3	0.01	254	0.49	469	1	0.00	321	0.62	510	5	0.01	487	0.94
418	1	0.00	255	0.49	470	2	0.00	323	0.62	511	6	0.01	493	0.95
420	3	0.01	258	0.50	471	1	0.00	324	0.63	512	8	0.02	501	0.97
421	2	0.00	260	0.50	472	2	0.00	326	0.63	513	3	0.01	504	0.97
422	2	0.00	262	0.51	473	1	0.00	327	0.63	514	5	0.01	509	0.98
423	2	0.00	264	0.51	474	1	0.00	328	0.63	515	10	0.02	519	1.00
424	1	0.00	265	0.51	475	1	0.00	329	0.64	516	10	0.02	529	1.02
425	1	0.00	266	0.51	476	2	0.00	331	0.64	517	9	0.02	538	1.04
426	1	0.00	267	0.52	477	4	0.01	335	0.65	518	10	0.02	548	1.06
427	2	0.00	269	0.52	479	3	0.01	338	0.65	519	5	0.01	553	1.07
428	2	0.00	271	0.52	480	4	0.01	342	0.66	520	8	0.02	561	1.09
429	1	0.00	272	0.53	481	1	0.00	343	0.66	521	14	0.03	575	1.11

Table A-28. Reading 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
522	8	0.02	583	1.13	562	34	0.07	1462	2.83	602	112	0.22	4233	8.19
523	12	0.02	595	1.15	563	36	0.07	1498	2.90	603	112	0.22	4345	8.40
524	12	0.02	607	1.17	564	25	0.05	1523	2.95	604	88	0.17	4433	8.57
525	14	0.03	621	1.20	565	38	0.07	1561	3.02	605	112	0.22	4545	8.79
526	11	0.02	632	1.22	566	37	0.07	1598	3.09	606	117	0.23	4662	9.02
527	7	0.01	639	1.24	567	51	0.10	1649	3.19	607	128	0.25	4790	9.26
528	11	0.02	650	1.26	568	48	0.09	1697	3.28	608	131	0.25	4921	9.52
529	12	0.02	662	1.28	569	42	0.08	1739	3.36	609	123	0.24	5044	9.76
530	8	0.02	670	1.30	570	66	0.13	1805	3.49	610	129	0.25	5173	10.01
531	13	0.03	683	1.32	571	54	0.10	1859	3.60	611	143	0.28	5316	10.28
532	18	0.03	701	1.36	572	43	0.08	1902	3.68	612	142	0.27	5458	10.56
533	11	0.02	712	1.38	573	51	0.10	1953	3.78	613	136	0.26	5594	10.82
534	11	0.02	723	1.40	574	50	0.10	2003	3.87	614	148	0.29	5742	11.11
535	6	0.01	729	1.41	575	65	0.13	2068	4.00	615	129	0.25	5871	11.36
536	16	0.03	745	1.44	576	61	0.12	2129	4.12	616	136	0.26	6007	11.62
537	14	0.03	759	1.47	577	67	0.13	2196	4.25	617	157	0.30	6164	11.92
538	17	0.03	776	1.50	578	46	0.09	2242	4.34	618	146	0.28	6310	12.20
539	17	0.03	793	1.53	579	70	0.14	2312	4.47	619	140	0.27	6450	12.48
540	18	0.03	811	1.57	580	65	0.13	2377	4.60	620	138	0.27	6588	12.74
541	18	0.03	829	1.60	581	62	0.12	2439	4.72	621	164	0.32	6752	13.06
542	22	0.04	851	1.65	582	61	0.12	2500	4.84	622	166	0.32	6918	13.38
543	27	0.05	878	1.70	583	65	0.13	2565	4.96	623	173	0.33	7091	13.72
544	24	0.05	902	1.74	584	80	0.15	2645	5.12	624	149	0.29	7240	14.00
545	30	0.06	932	1.80	585	69	0.13	2714	5.25	625	160	0.31	7400	14.31
546	21	0.04	953	1.84	586	69	0.13	2783	5.38	626	178	0.34	7578	14.66
547	31	0.06	984	1.90	587	61	0.12	2844	5.50	627	171	0.33	7749	14.99
548	22	0.04	1006	1.95	588	86	0.17	2930	5.67	628	180	0.35	7929	15.34
549	30	0.06	1036	2.00	589	79	0.15	3009	5.82	629	172	0.33	8101	15.67
550	21	0.04	1057	2.04	590	76	0.15	3085	5.97	630	204	0.39	8305	16.06
551	27	0.05	1084	2.10	591	86	0.17	3171	6.13	631	191	0.37	8496	16.43
552	28	0.05	1112	2.15	592	101	0.20	3272	6.33	632	187	0.36	8683	16.79
553	26	0.05	1138	2.20	593	94	0.18	3366	6.51	633	194	0.38	8877	17.17
554	36	0.07	1174	2.27	594	105	0.20	3471	6.71	634	205	0.40	9082	17.57
555	38	0.07	1212	2.34	595	84	0.16	3555	6.88	635	219	0.42	9301	17.99
556	39	0.08	1251	2.42	596	98	0.19	3653	7.07	636	203	0.39	9504	18.38
557	41	0.08	1292	2.50	597	93	0.18	3746	7.25	637	203	0.39	9707	18.77
558	27	0.05	1319	2.55	598	101	0.20	3847	7.44	638	238	0.46	9945	19.24
559	34	0.07	1353	2.62	599	86	0.17	3933	7.61	639	235	0.45	10180	19.69
560	35	0.07	1388	2.68	600	96	0.19	4029	7.79	640	237	0.46	10417	20.15
561	40	0.08	1428	2.76	601	92	0.18	4121	7.97	641	236	0.46	10653	20.60

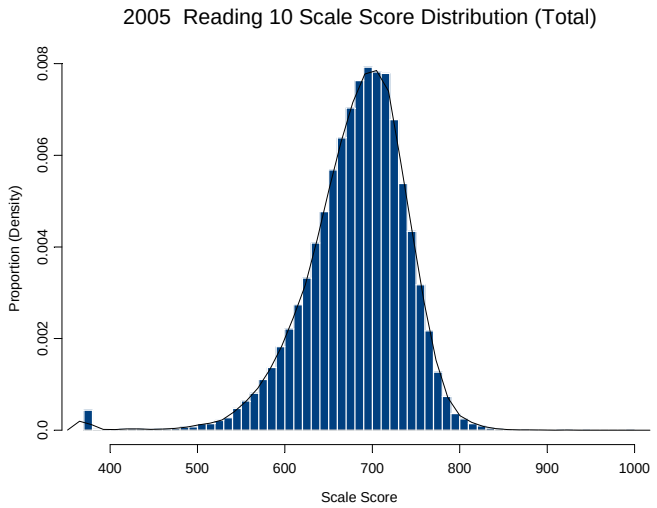
Table A-28. Reading 10 Scale Score Distribution (Continued)

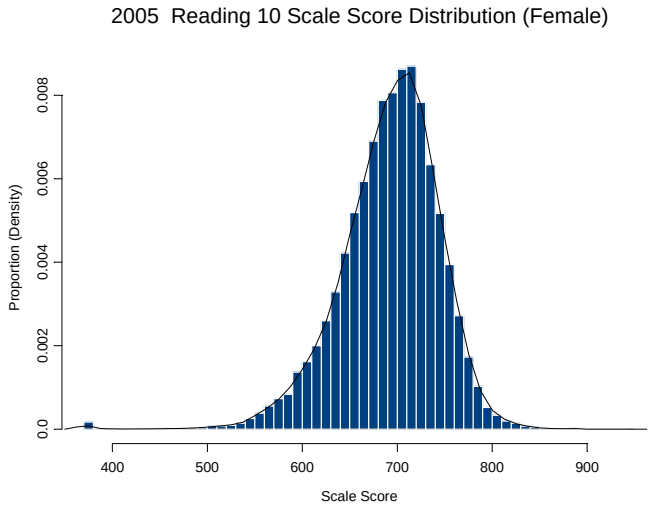
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
642	218	0.42	10871	21.03	682	407	0.79	23524	45.50	722	388	0.75	39599	76.59
643	246	0.48	11117	21.50	683	402	0.78	23926	46.28	723	342	0.66	39941	77.25
644	202	0.39	11319	21.89	684	396	0.77	24322	47.04	724	353	0.68	40294	77.94
645	238	0.46	11557	22.35	685	384	0.74	24706	47.79	725	383	0.74	40677	78.68
646	250	0.48	11807	22.84	686	388	0.75	25094	48.54	726	377	0.73	41054	79.41
647	271	0.52	12078	23.36	687	398	0.77	25492	49.31	727	304	0.59	41358	79.99
648	272	0.53	12350	23.89	688	385	0.74	25877	50.05	728	349	0.68	41707	80.67
649	301	0.58	12651	24.47	689	439	0.85	26316	50.90	729	341	0.66	42048	81.33
650	233	0.45	12884	24.92	690	389	0.75	26705	51.65	730	329	0.64	42377	81.96
651	300	0.58	13184	25.50	691	413	0.80	27118	52.45	731	312	0.60	42689	82.57
652	256	0.50	13440	26.00	692	388	0.75	27506	53.20	732	283	0.55	42972	83.11
653	279	0.54	13719	26.53	693	409	0.79	27915	53.99	733	259	0.50	43231	83.62
654	301	0.58	14020	27.12	694	402	0.78	28317	54.77	734	314	0.61	43545	84.22
655	285	0.55	14305	27.67	695	439	0.85	28756	55.62	735	278	0.54	43823	84.76
656	307	0.59	14612	28.26	696	402	0.78	29158	56.40	736	271	0.52	44094	85.28
657	290	0.56	14902	28.82	697	422	0.82	29580	57.21	737	294	0.57	44388	85.85
658	297	0.57	15199	29.40	698	392	0.76	29972	57.97	738	259	0.50	44647	86.35
659	321	0.62	15520	30.02	699	385	0.74	30357	58.72	739	253	0.49	44900	86.84
660	302	0.58	15822	30.60	700	446	0.86	30803	59.58	740	262	0.51	45162	87.35
661	301	0.58	16123	31.18	701	431	0.83	31234	60.41	741	266	0.51	45428	87.87
662	328	0.63	16451	31.82	702	405	0.78	31639	61.19	742	247	0.48	45675	88.34
663	313	0.61	16764	32.42	703	365	0.71	32004	61.90	743	236	0.46	45911	88.80
664	325	0.63	17089	33.05	704	387	0.75	32391	62.65	744	260	0.50	46171	89.30
665	332	0.64	17421	33.70	705	413	0.80	32804	63.45	745	239	0.46	46410	89.76
666	324	0.63	17745	34.32	706	413	0.80	33217	64.25	746	207	0.40	46617	90.16
667	371	0.72	18116	35.04	707	421	0.81	33638	65.06	747	212	0.41	46829	90.57
668	335	0.65	18451	35.69	708	361	0.70	33999	65.76	748	189	0.37	47018	90.94
669	335	0.65	18786	36.34	709	441	0.85	34440	66.61	749	190	0.37	47208	91.31
670	336	0.65	19122	36.99	710	406	0.79	34846	67.40	750	199	0.38	47407	91.69
671	371	0.72	19493	37.70	711	399	0.77	35245	68.17	751	227	0.44	47634	92.13
672	330	0.64	19823	38.34	712	456	0.88	35701	69.05	752	179	0.35	47813	92.48
673	347	0.67	20170	39.01	713	404	0.78	36105	69.83	753	157	0.30	47970	92.78
674	363	0.70	20533	39.71	714	391	0.76	36496	70.59	754	168	0.32	48138	93.11
675	393	0.76	20926	40.47	715	373	0.72	36869	71.31	755	175	0.34	48313	93.45
676	375	0.73	21301	41.20	716	419	0.81	37288	72.12	756	140	0.27	48453	93.72
677	390	0.75	21691	41.95	717	411	0.79	37699	72.92	757	156	0.30	48609	94.02
678	333	0.64	22024	42.60	718	417	0.81	38116	73.72	758	126	0.24	48735	94.26
679	375	0.73	22399	43.32	719	366	0.71	38482	74.43	759	158	0.31	48893	94.57
680	360	0.70	22759	44.02	720	391	0.76	38873	75.19	760	156	0.30	49049	94.87
681	358	0.69	23117	44.71	721	338	0.65	39211	75.84	761	127	0.25	49176	95.11

Table A-28. Reading 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
762	135	0.26	49311	95.38	802	22	0.04	51430	99.47	844	1	0.00	51676	99.95
763	126	0.24	49437	95.62	803	9	0.02	51439	99.49	847	2	0.00	51678	99.95
764	127	0.25	49564	95.86	804	9	0.02	51448	99.51	848	1	0.00	51679	99.96
765	114	0.22	49678	96.09	805	15	0.03	51463	99.54	849	2	0.00	51681	99.96
766	109	0.21	49787	96.30	806	15	0.03	51478	99.57	850	1	0.00	51682	99.96
767	102	0.20	49889	96.49	807	13	0.03	51491	99.59	852	1	0.00	51683	99.96
768	97	0.19	49986	96.68	808	15	0.03	51506	99.62	854	2	0.00	51685	99.97
769	101	0.20	50087	96.88	809	11	0.02	51517	99.64	855	1	0.00	51686	99.97
770	83	0.16	50170	97.04	810	6	0.01	51523	99.65	859	1	0.00	51687	99.97
771	80	0.15	50250	97.19	811	15	0.03	51538	99.68	862	1	0.00	51688	99.97
772	71	0.14	50321	97.33	812	14	0.03	51552	99.71	863	1	0.00	51689	99.97
773	81	0.16	50402	97.49	813	2	0.00	51554	99.71	866	1	0.00	51690	99.98
774	76	0.15	50478	97.63	814	6	0.01	51560	99.73	870	1	0.00	51691	99.98
775	57	0.11	50535	97.74	815	9	0.02	51569	99.74	874	1	0.00	51692	99.98
776	71	0.14	50606	97.88	816	5	0.01	51574	99.75	879	1	0.00	51693	99.98
777	51	0.10	50657	97.98	817	10	0.02	51584	99.77	885	1	0.00	51694	99.98
778	72	0.14	50729	98.12	818	6	0.01	51590	99.78	886	1	0.00	51695	99.99
779	56	0.11	50785	98.23	819	3	0.01	51593	99.79	888	3	0.01	51698	99.99
780	41	0.08	50826	98.31	820	4	0.01	51597	99.80	917	1	0.00	51699	99.99
781	50	0.10	50876	98.40	821	6	0.01	51603	99.81	922	1	0.00	51700	100.00
782	44	0.09	50920	98.49	822	2	0.00	51605	99.81	943	1	0.00	51701	100.00
783	52	0.10	50972	98.59	823	11	0.02	51616	99.83	999	1	0.00	51702	100.00
784	48	0.09	51020	98.68	824	7	0.01	51623	99.85					
785	35	0.07	51055	98.75	825	9	0.02	51632	99.86					
786	33	0.06	51088	98.81	826	4	0.01	51636	99.87					
787	31	0.06	51119	98.87	827	3	0.01	51639	99.88					
788	33	0.06	51152	98.94	828	4	0.01	51643	99.89					
789	29	0.06	51181	98.99	829	2	0.00	51645	99.89					
790	26	0.05	51207	99.04	831	4	0.01	51649	99.90					
791	19	0.04	51226	99.08	832	2	0.00	51651	99.90					
792	28	0.05	51254	99.13	833	2	0.00	51653	99.91					
793	23	0.04	51277	99.18	834	3	0.01	51656	99.91					
794	19	0.04	51296	99.21	835	1	0.00	51657	99.91					
795	14	0.03	51310	99.24	836	2	0.00	51659	99.92					
796	23	0.04	51333	99.29	837	1	0.00	51660	99.92					
797	16	0.03	51349	99.32	838	3	0.01	51663	99.92					
798	13	0.03	51362	99.34	839	3	0.01	51666	99.93					
799	23	0.04	51385	99.39	840	3	0.01	51669	99.94					
800	9	0.02	51394	99.40	842	3	0.01	51672	99.94					
801	14	0.03	51408	99.43	843	3	0.01	51675	99.95					

Figure A-28. Reading 10 Scale Score Distributions for the Total Population, Female, and Male Students





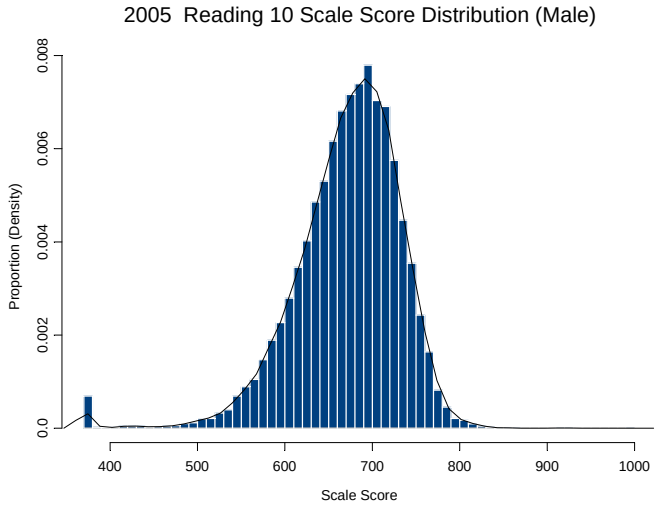


Table A-29. Writing 10 Scale Score Distribution

(SS = Scale Score, Freq. = Frequency, Cum. = Cumulative)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
270	52	0.10	52	0.10	325	2	0.00	144	0.28	365	6	0.01	394	0.76
272	1	0.00	53	0.10	326	4	0.01	148	0.29	366	10	0.02	404	0.78
279	2	0.00	55	0.11	327	3	0.01	151	0.29	367	11	0.02	415	0.80
280	1	0.00	56	0.11	328	10	0.02	161	0.31	368	15	0.03	430	0.83
281	1	0.00	57	0.11	329	1	0.00	162	0.31	369	12	0.02	442	0.86
282	1	0.00	58	0.11	330	2	0.00	164	0.32	370	12	0.02	454	0.88
285	1	0.00	59	0.11	331	3	0.01	167	0.32	371	10	0.02	464	0.90
286	1	0.00	60	0.12	332	7	0.01	174	0.34	372	10	0.02	474	0.92
288	2	0.00	62	0.12	333	5	0.01	179	0.35	373	9	0.02	483	0.94
290	3	0.01	65	0.13	334	3	0.01	182	0.35	374	19	0.04	502	0.97
292	2	0.00	67	0.13	335	3	0.01	185	0.36	375	11	0.02	513	0.99
293	3	0.01	70	0.14	336	5	0.01	190	0.37	376	16	0.03	529	1.02
294	2	0.00	72	0.14	337	5	0.01	195	0.38	377	15	0.03	544	1.05
296	2	0.00	74	0.14	338	10	0.02	205	0.40	378	17	0.03	561	1.09
297	1	0.00	75	0.15	339	3	0.01	208	0.40	379	12	0.02	573	1.11
298	2	0.00	77	0.15	340	3	0.01	211	0.41	380	15	0.03	588	1.14
300	2	0.00	79	0.15	341	3	0.01	214	0.41	381	15	0.03	603	1.17
302	1	0.00	80	0.15	342	4	0.01	218	0.42	382	28	0.05	631	1.22
303	2	0.00	82	0.16	343	7	0.01	225	0.44	383	15	0.03	646	1.25
304	1	0.00	83	0.16	344	6	0.01	231	0.45	384	8	0.02	654	1.27
305	2	0.00	85	0.16	345	3	0.01	234	0.45	385	21	0.04	675	1.31
306	6	0.01	91	0.18	346	4	0.01	238	0.46	386	17	0.03	692	1.34
307	3	0.01	94	0.18	347	6	0.01	244	0.47	387	19	0.04	711	1.38
308	5	0.01	99	0.19	348	8	0.02	252	0.49	388	15	0.03	726	1.41
309	3	0.01	102	0.20	349	9	0.02	261	0.51	389	12	0.02	738	1.43
310	2	0.00	104	0.20	350	6	0.01	267	0.52	390	20	0.04	758	1.47
311	3	0.01	107	0.21	351	9	0.02	276	0.53	391	25	0.05	783	1.52
312	4	0.01	111	0.21	352	12	0.02	288	0.56	392	13	0.03	796	1.54
313	2	0.00	113	0.22	353	4	0.01	292	0.57	393	12	0.02	808	1.56
314	3	0.01	116	0.22	354	5	0.01	297	0.58	394	21	0.04	829	1.61
315	2	0.00	118	0.23	355	4	0.01	301	0.58	395	24	0.05	853	1.65
316	1	0.00	119	0.23	356	6	0.01	307	0.59	396	28	0.05	881	1.71
317	4	0.01	123	0.24	357	14	0.03	321	0.62	397	30	0.06	911	1.76
318	2	0.00	125	0.24	358	11	0.02	332	0.64	398	19	0.04	930	1.80
319	3	0.01	128	0.25	359	11	0.02	343	0.66	399	18	0.03	948	1.84
320	2	0.00	130	0.25	360	5	0.01	348	0.67	400	25	0.05	973	1.88
321	2	0.00	132	0.26	361	11	0.02	359	0.70	401	25	0.05	998	1.93
322	2	0.00	134	0.26	362	12	0.02	371	0.72	402	23	0.04	1021	1.98
323	1	0.00	135	0.26	363	7	0.01	378	0.73	403	32	0.06	1053	2.04
324	7	0.01	142	0.27	364	10	0.02	388	0.75	404	32	0.06	1085	2.10

Table A-29. Writing 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
405	30	0.06	1115	2.16	445	63	0.12	2900	5.62	485	109	0.21	6455	12.50
406	36	0.07	1151	2.23	446	62	0.12	2962	5.74	486	114	0.22	6569	12.72
407	26	0.05	1177	2.28	447	62	0.12	3024	5.86	487	115	0.22	6684	12.94
408	32	0.06	1209	2.34	448	66	0.13	3090	5.98	488	117	0.23	6801	13.17
409	35	0.07	1244	2.41	449	55	0.11	3145	6.09	489	126	0.24	6927	13.41
410	30	0.06	1274	2.47	450	61	0.12	3206	6.21	490	137	0.27	7064	13.68
411	35	0.07	1309	2.53	451	65	0.13	3271	6.33	491	156	0.30	7220	13.98
412	28	0.05	1337	2.59	452	78	0.15	3349	6.49	492	115	0.22	7335	14.20
413	28	0.05	1365	2.64	453	64	0.12	3413	6.61	493	119	0.23	7454	14.44
414	40	0.08	1405	2.72	454	66	0.13	3479	6.74	494	137	0.27	7591	14.70
415	43	0.08	1448	2.80	455	74	0.14	3553	6.88	495	132	0.26	7723	14.96
416	34	0.07	1482	2.87	456	91	0.18	3644	7.06	496	117	0.23	7840	15.18
417	30	0.06	1512	2.93	457	77	0.15	3721	7.21	497	138	0.27	7978	15.45
418	25	0.05	1537	2.98	458	71	0.14	3792	7.34	498	145	0.28	8123	15.73
419	40	0.08	1577	3.05	459	78	0.15	3870	7.49	499	142	0.27	8265	16.01
420	34	0.07	1611	3.12	460	77	0.15	3947	7.64	500	141	0.27	8406	16.28
421	52	0.10	1663	3.22	461	98	0.19	4045	7.83	501	148	0.29	8554	16.57
422	34	0.07	1697	3.29	462	91	0.18	4136	8.01	502	150	0.29	8704	16.86
423	38	0.07	1735	3.36	463	67	0.13	4203	8.14	503	144	0.28	8848	17.13
424	39	0.08	1774	3.44	464	87	0.17	4290	8.31	504	149	0.29	8997	17.42
425	51	0.10	1825	3.53	465	82	0.16	4372	8.47	505	155	0.30	9152	17.72
426	56	0.11	1881	3.64	466	103	0.20	4475	8.67	506	157	0.30	9309	18.03
427	46	0.09	1927	3.73	467	87	0.17	4562	8.83	507	154	0.30	9463	18.33
428	41	0.08	1968	3.81	468	97	0.19	4659	9.02	508	143	0.28	9606	18.60
429	50	0.10	2018	3.91	469	101	0.20	4760	9.22	509	152	0.29	9758	18.90
430	49	0.09	2067	4.00	470	89	0.17	4849	9.39	510	142	0.27	9900	19.17
431	37	0.07	2104	4.07	471	102	0.20	4951	9.59	511	161	0.31	10061	19.48
432	51	0.10	2155	4.17	472	92	0.18	5043	9.77	512	175	0.34	10236	19.82
433	50	0.10	2205	4.27	473	114	0.22	5157	9.99	513	170	0.33	10406	20.15
434	44	0.09	2249	4.36	474	112	0.22	5269	10.20	514	145	0.28	10551	20.43
435	60	0.12	2309	4.47	475	108	0.21	5377	10.41	515	160	0.31	10711	20.74
436	62	0.12	2371	4.59	476	105	0.20	5482	10.62	516	181	0.35	10892	21.09
437	49	0.09	2420	4.69	477	113	0.22	5595	10.84	517	171	0.33	11063	21.42
438	51	0.10	2471	4.79	478	103	0.20	5698	11.03	518	158	0.31	11221	21.73
439	66	0.13	2537	4.91	479	116	0.22	5814	11.26	519	150	0.29	11371	22.02
440	62	0.12	2599	5.03	480	104	0.20	5918	11.46	520	202	0.39	11573	22.41
441	61	0.12	2660	5.15	481	119	0.23	6037	11.69	521	179	0.35	11752	22.76
442	63	0.12	2723	5.27	482	94	0.18	6131	11.87	522	200	0.39	11952	23.15
443	68	0.13	2791	5.40	483	112	0.22	6243	12.09	523	169	0.33	12121	23.47
444	46	0.09	2837	5.49	484	103	0.20	6346	12.29	524	192	0.37	12313	23.84

Table A-29. Writing 10 Scale Score Distribution (Continued)

SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
525	198	0.38	12511	24.23	565	256	0.50	21791	42.20	605	253	0.49	32789	63.50
526	178	0.34	12689	24.57	566	256	0.50	22047	42.70	606	271	0.52	33060	64.02
527	204	0.40	12893	24.97	567	256	0.50	22303	43.19	607	256	0.50	33316	64.52
528	197	0.38	13090	25.35	568	250	0.48	22553	43.68	608	241	0.47	33557	64.99
529	172	0.33	13262	25.68	569	249	0.48	22802	44.16	609	263	0.51	33820	65.49
530	208	0.40	13470	26.09	570	282	0.55	23084	44.70	610	245	0.47	34065	65.97
531	202	0.39	13672	26.48	571	279	0.54	23363	45.24	611	288	0.56	34353	66.53
532	196	0.38	13868	26.86	572	261	0.51	23624	45.75	612	249	0.48	34602	67.01
533	216	0.42	14084	27.27	573	263	0.51	23887	46.26	613	256	0.50	34858	67.50
534	234	0.45	14318	27.73	574	262	0.51	24149	46.77	614	300	0.58	35158	68.09
535	192	0.37	14510	28.10	575	254	0.49	24403	47.26	615	246	0.48	35404	68.56
536	214	0.41	14724	28.51	576	297	0.58	24700	47.83	616	243	0.47	35647	69.03
537	219	0.42	14943	28.94	577	289	0.56	24989	48.39	617	249	0.48	35896	69.51
538	252	0.49	15195	29.43	578	268	0.52	25257	48.91	618	291	0.56	36187	70.08
539	199	0.39	15394	29.81	579	285	0.55	25542	49.46	619	222	0.43	36409	70.51
540	216	0.42	15610	30.23	580	284	0.55	25826	50.01	620	240	0.46	36649	70.97
541	239	0.46	15849	30.69	581	271	0.52	26097	50.54	621	233	0.45	36882	71.42
542	230	0.45	16079	31.14	582	277	0.54	26374	51.07	622	268	0.52	37150	71.94
543	215	0.42	16294	31.55	583	270	0.52	26644	51.60	623	211	0.41	37361	72.35
544	246	0.48	16540	32.03	584	255	0.49	26899	52.09	624	232	0.45	37593	72.80
545	227	0.44	16767	32.47	585	292	0.57	27191	52.66	625	236	0.46	37829	73.26
546	245	0.47	17012	32.94	586	303	0.59	27494	53.24	626	225	0.44	38054	73.69
547	214	0.41	17226	33.36	587	281	0.54	27775	53.79	627	269	0.52	38323	74.21
548	241	0.47	17467	33.83	588	282	0.55	28057	54.33	628	227	0.44	38550	74.65
549	227	0.44	17694	34.27	589	288	0.56	28345	54.89	629	244	0.47	38794	75.13
550	248	0.48	17942	34.75	590	258	0.50	28603	55.39	630	219	0.42	39013	75.55
551	245	0.47	18187	35.22	591	278	0.54	28881	55.93	631	215	0.42	39228	75.97
552	272	0.53	18459	35.75	592	277	0.54	29158	56.47	632	208	0.40	39436	76.37
553	266	0.52	18725	36.26	593	269	0.52	29427	56.99	633	216	0.42	39652	76.79
554	224	0.43	18949	36.70	594	265	0.51	29692	57.50	634	229	0.44	39881	77.23
555	254	0.49	19203	37.19	595	285	0.55	29977	58.05	635	213	0.41	40094	77.64
556	245	0.47	19448	37.66	596	301	0.58	30278	58.64	636	201	0.39	40295	78.03
557	278	0.54	19726	38.20	597	292	0.57	30570	59.20	637	199	0.39	40494	78.42
558	258	0.50	19984	38.70	598	281	0.54	30851	59.74	638	177	0.34	40671	78.76
559	252	0.49	20236	39.19	599	295	0.57	31146	60.32	639	216	0.42	40887	79.18
560	261	0.51	20497	39.69	600	264	0.51	31410	60.83	640	213	0.41	41100	79.59
561	270	0.52	20767	40.22	601	264	0.51	31674	61.34	641	196	0.38	41296	79.97
562	254	0.49	21021	40.71	602	303	0.59	31977	61.93	642	191	0.37	41487	80.34
563	271	0.52	21292	41.23	603	280	0.54	32257	62.47	643	177	0.34	41664	80.68
564	243	0.47	21535	41.70	604	279	0.54	32536	63.01	644	169	0.33	41833	81.01

Table A-29. Writing 10 Scale Score Distribution (Continued)

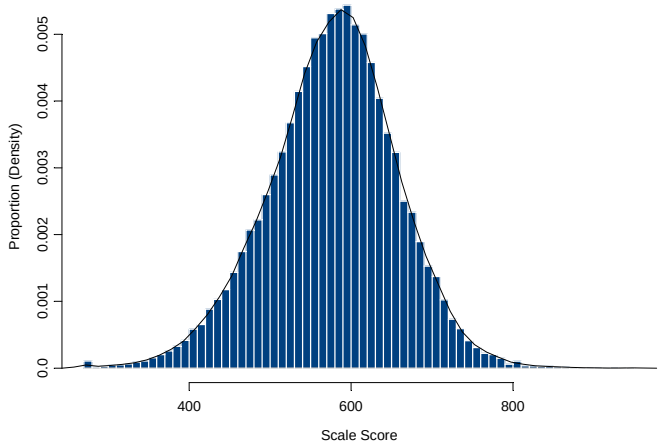
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
645	180	0.35	42013	81.36	685	98	0.19	47613	92.21	725	37	0.07	50302	97.41
646	184	0.36	42197	81.72	686	95	0.18	47708	92.39	726	26	0.05	50328	97.46
647	163	0.32	42360	82.03	687	96	0.19	47804	92.58	727	33	0.06	50361	97.53
648	171	0.33	42531	82.36	688	84	0.16	47888	92.74	728	30	0.06	50391	97.59
649	205	0.40	42736	82.76	689	91	0.18	47979	92.91	729	51	0.10	50442	97.68
650	182	0.35	42918	83.11	690	84	0.16	48063	93.08	730	28	0.05	50470	97.74
651	206	0.40	43124	83.51	691	72	0.14	48135	93.22	731	31	0.06	50501	97.80
652	163	0.32	43287	83.83	692	94	0.18	48229	93.40	732	35	0.07	50536	97.87
653	157	0.30	43444	84.13	693	95	0.18	48324	93.58	733	41	0.08	50577	97.95
654	192	0.37	43636	84.50	694	90	0.17	48414	93.76	734	33	0.06	50610	98.01
655	185	0.36	43821	84.86	695	82	0.16	48496	93.92	735	29	0.06	50639	98.07
656	167	0.32	43988	85.19	696	70	0.14	48566	94.05	736	26	0.05	50665	98.12
657	138	0.27	44126	85.45	697	86	0.17	48652	94.22	737	35	0.07	50700	98.18
658	149	0.29	44275	85.74	698	70	0.14	48722	94.35	738	23	0.04	50723	98.23
659	165	0.32	44440	86.06	699	77	0.15	48799	94.50	739	23	0.04	50746	98.27
660	147	0.28	44587	86.35	700	54	0.10	48853	94.61	740	30	0.06	50776	98.33
661	131	0.25	44718	86.60	701	65	0.13	48918	94.73	741	18	0.03	50794	98.37
662	137	0.27	44855	86.86	702	87	0.17	49005	94.90	742	14	0.03	50808	98.39
663	141	0.27	44996	87.14	703	68	0.13	49073	95.03	743	23	0.04	50831	98.44
664	133	0.26	45129	87.39	704	80	0.15	49153	95.19	744	22	0.04	50853	98.48
665	144	0.28	45273	87.67	705	66	0.13	49219	95.32	745	20	0.04	50873	98.52
666	130	0.25	45403	87.93	706	83	0.16	49302	95.48	746	21	0.04	50894	98.56
667	114	0.22	45517	88.15	707	65	0.13	49367	95.60	747	15	0.03	50909	98.59
668	137	0.27	45654	88.41	708	61	0.12	49428	95.72	748	22	0.04	50931	98.63
669	120	0.23	45774	88.64	709	66	0.13	49494	95.85	749	33	0.06	50964	98.69
670	104	0.20	45878	88.85	710	68	0.13	49562	95.98	750	25	0.05	50989	98.74
671	125	0.24	46003	89.09	711	61	0.12	49623	96.10	751	15	0.03	51004	98.77
672	133	0.26	46136	89.35	712	57	0.11	49680	96.21	752	13	0.03	51017	98.80
673	126	0.24	46262	89.59	713	47	0.09	49727	96.30	753	10	0.02	51027	98.82
674	119	0.23	46381	89.82	714	67	0.13	49794	96.43	754	15	0.03	51042	98.85
675	112	0.22	46493	90.04	715	51	0.10	49845	96.53	755	18	0.03	51060	98.88
676	109	0.21	46602	90.25	716	57	0.11	49902	96.64	756	13	0.03	51073	98.91
677	131	0.25	46733	90.50	717	44	0.09	49946	96.72	757	30	0.06	51103	98.96
678	127	0.25	46860	90.75	718	58	0.11	50004	96.84	758	10	0.02	51113	98.98
679	102	0.20	46962	90.94	719	51	0.10	50055	96.93	759	17	0.03	51130	99.02
680	122	0.24	47084	91.18	720	36	0.07	50091	97.00	760	19	0.04	51149	99.05
681	124	0.24	47208	91.42	721	54	0.10	50145	97.11	761	6	0.01	51155	99.06
682	107	0.21	47315	91.63	722	47	0.09	50192	97.20	762	17	0.03	51172	99.10
683	107	0.21	47422	91.84	723	38	0.07	50230	97.27	763	14	0.03	51186	99.12
684	93	0.18	47515	92.02	724	35	0.07	50265	97.34	764	13	0.03	51199	99.15

Table A-29. Writing 10 Scale Score Distribution (Continued)

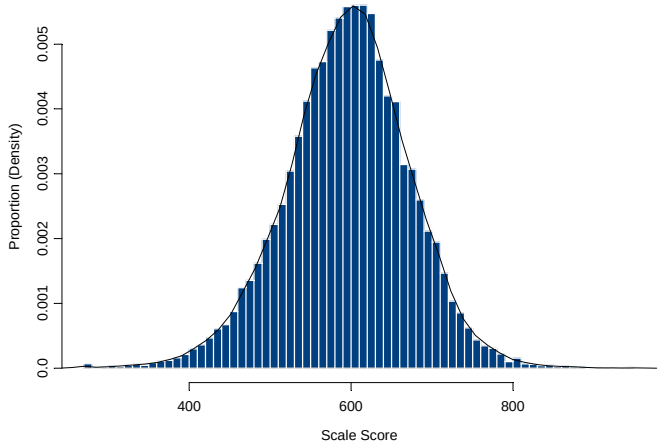
SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %	SS	Freq.	%	Cum. Freq.	Cum. %
765	8	0.02	51207	99.17	807	2	0.00	51514	99.76	879	1	0.00	51622	99.97
766	8	0.02	51215	99.18	808	6	0.01	51520	99.77	889	1	0.00	51623	99.97
767	8	0.02	51223	99.20	809	6	0.01	51526	99.78	890	4	0.01	51627	99.98
768	18	0.03	51241	99.23	810	5	0.01	51531	99.79	894	1	0.00	51628	99.98
769	12	0.02	51253	99.25	811	3	0.01	51534	99.80	902	1	0.00	51629	99.98
770	11	0.02	51264	99.28	813	1	0.00	51535	99.80	920	3	0.01	51632	99.99
771	9	0.02	51273	99.29	814	3	0.01	51538	99.81	926	1	0.00	51633	99.99
772	10	0.02	51283	99.31	815	2	0.00	51540	99.81	950	5	0.01	51638	100.00
773	8	0.02	51291	99.33	816	1	0.00	51541	99.81					
774	11	0.02	51302	99.35	817	1	0.00	51542	99.81					
775	16	0.03	51318	99.38	818	6	0.01	51548	99.83					
776	11	0.02	51329	99.40	819	1	0.00	51549	99.83					
777	11	0.02	51340	99.42	820	1	0.00	51550	99.83					
778	13	0.03	51353	99.45	822	4	0.01	51554	99.84					
779	9	0.02	51362	99.47	823	2	0.00	51556	99.84					
780	8	0.02	51370	99.48	824	4	0.01	51560	99.85					
781	11	0.02	51381	99.50	825	1	0.00	51561	99.85					
782	7	0.01	51388	99.52	826	2	0.00	51563	99.85					
783	10	0.02	51398	99.54	827	2	0.00	51565	99.86					
784	11	0.02	51409	99.56	828	3	0.01	51568	99.86					
785	8	0.02	51417	99.57	832	4	0.01	51572	99.87					
786	1	0.00	51418	99.57	833	1	0.00	51573	99.87					
787	7	0.01	51425	99.59	834	1	0.00	51574	99.88					
788	7	0.01	51432	99.60	835	5	0.01	51579	99.89					
789	4	0.01	51436	99.61	836	4	0.01	51583	99.89					
790	10	0.02	51446	99.63	842	1	0.00	51584	99.90					
791	7	0.01	51453	99.64	843	5	0.01	51589	99.91					
792	8	0.02	51461	99.66	844	2	0.00	51591	99.91					
793	2	0.00	51463	99.66	845	5	0.01	51596	99.92					
794	3	0.01	51466	99.67	847	1	0.00	51597	99.92					
795	2	0.00	51468	99.67	850	1	0.00	51598	99.92					
796	2	0.00	51470	99.67	853	2	0.00	51600	99.93					
798	2	0.00	51472	99.68	856	2	0.00	51602	99.93					
799	2	0.00	51474	99.68	858	6	0.01	51608	99.94					
800	3	0.01	51477	99.69	859	1	0.00	51609	99.94					
801	8	0.02	51485	99.70	863	3	0.01	51612	99.95					
802	4	0.01	51489	99.71	864	1	0.00	51613	99.95					
803	15	0.03	51504	99.74	870	4	0.01	51617	99.96					
804	2	0.00	51506	99.74	873	2	0.00	51619	99.96					
806	6	0.01	51512	99.76	875	2	0.00	51621	99.97					

Figure A-29. Writing 10 Scale Score Distributions for the Total Population, Female, and Male Students

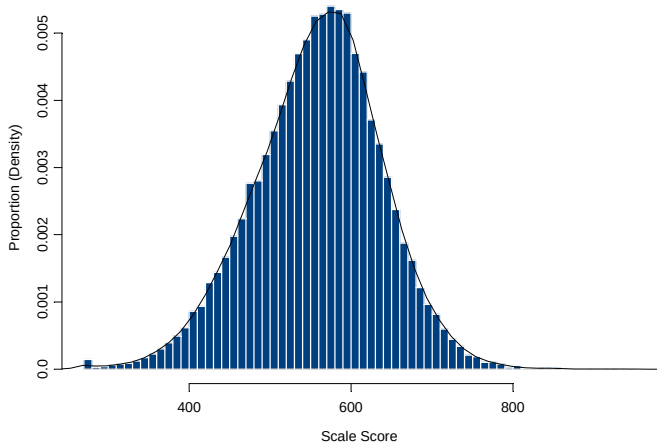
2005 Writing 10 Scale Score Distribution (Total)



2005 Writing 10 Scale Score Distribution (Female)



2005 Writing 10 Scale Score Distribution (Male)



Appendix B: Validity of the CSAP 2005 Assessments

> "Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests. Validity is, therefore, the most fundamental consideration in developing and evaluating tests. The process of validation involves accumulating evidence to provide a sound scientific basis for the proposed score interpretations" (AERA, APA, NCME, 1999).

The purpose of test validation is not to validate the test itself but to validate interpretations of the test scores for particular purposes or uses. Test validation is not a quantifiable property but an ongoing process, beginning at initial conceptualization and continuing throughout the lifetime of an assessment. Every aspect of an assessment provides evidence in support of its validity (or evidence to the contrary), including design, content specifications, item development, and psychometric quality.

Content-Related Validity

Content-related validity in achievement tests is evidenced by a correspondence between test content and a specification of the content domain. To ensure such correspondence, the Colorado Department of Education conducted a comprehensive curriculum review. They met with educational experts to determine common educational goals and the knowledge and skills emphasized in curricula. The Colorado Model Content Standards and Assessment Frameworks are the outcomes of the process.

The Colorado Model Content Standards and Assessment Frameworks are the foundation for the *CSAP* assessments. All *CSAP* items are developed to measure the content standards and are subject to numerous levels of scrutiny, both internal and external, before their operational use. All items are closely examined according to the "Criteria for Item Acceptability[1]" to ensure the adequacy and relevancy of each item with respect to content, theme, wording, format, and style prior to formal review by Content and Bias Review panels. Through this process all efforts are made to ensure test items are tightly aligned with the Colorado Model Content Standards. Tables B-1 through B-4 show for each content area test the number of score reporting categories (SRCs), the number of performance indicators (PIs) in each SRC, the number of items measuring each SRC, the number of PIs assessed by the current test, and finally the percentage of all PIs assessed. It may not be feasible to assess all PIs in a single test; however, as appropriate, efforts are made to assess all measurable PIs across years.

[1] This checklist is used to train item writers and when reviewing items for test construction.

Table B-1. Alignment Summary, Reading & Writing

Grade	Score Reporting Category (SRC)	Number of items in the SRC	Number of PI	Number of PI Assessed	% of PI Assessed
3	1	40	7	6	86%
	2	21	5	2	40%
	3	32	6	5	83%
4	1	30	8	6	75%
	2	21	5	4	80%
	3	32	5	4	80%
	4	14	5	5	100%
	5	14	6	3	50%
	6	12	4	2	50%
5	1	25	7	5	71%
	2	20	7	6	86%
	3	33	5	5	100%
	4	20	6	5	83%
	5	14	7	4	57%
	6	13	4	2	50%
6	1	23	7	5	71%
	2	21	7	6	86%
	3	32	5	5	100%
	4	19	5	4	80%
	5	14	7	5	71%
	6	15	4	3	75%
7	1	20	9	7	78%
	2	21	7	6	86%
	3	32	6	6	100%
	4	17	5	4	80%
	5	19	7	5	71%
	6	16	4	4	100%
8	1	21	7	5	71%
	2	20	8	6	75%
	3	33	6	5	83%
	4	18	5	4	80%
	5	16	6	4	67%
	6	6	6	3	50%
9	1	21	7	5	71%
	2	20	9	7	78%
	3	28	7	6	86%
	4	15	5	3	60%
	5	20	6	5	83%
	6	15	5	4	80%
10	1	19	7	5	71%
	2	20	10	7	70%
	3	27	6	6	100%
	4	16	6	5	83%
	5	19	6	4	67%
	6	16	4	3	75%

Table B-2. Alignment Summary, Mathematics

Grade	Score Reporting Category (SRC)	Number of items in the SRC	Number of PI	Number of PI Assessed	% of PI Assessed
3	1	8	5	5	100%
	2/3	11	7	6	86%
	4/5	14	7	6	86%
	6	7	5	3	60%
4	1	14	5	4	80%
	2	9	4	4	100%
	3	11	4	4	100%
	4/5	21	9	9	100%
	6	14	4	4	100%
5	1	16	6	6	100%
	2	12	5	4	80%
	3	11	7	4	57%
	4/5	14	12	9	75%
	6	16	4	3	75%
6	1	12	6	5	83%
	2	10	5	3	60%
	3	11	5	5	100%
	4/5	16	9	7	78%
	6	11	4	4	100%
7	1/6	19	9	8	89%
	2	12	4	4	100%
	3	12	6	5	83%
	4/5	17	10	9	90%
8	1/6	15	9	6	67%
	2	15	5	3	60%
	3	12	6	5	83%
	4/5	18	10	10	100%
9	1/6	13	5	5	100%
	2	17	5	5	100%
	3	15	6	6	100%
	4/5	15	5	5	100%
10	1/6	14	6	5	83%
	2	17	5	5	100%
	3	15	6	6	100%
	4/5	14	7	5	71%

Table B-3. Alignment Summary, Science

Grade	Score Reporting Category (SRC)	Number of items in the SRC	Number of PI	Number of PI Assessed	% of PI Assessed
8	1	25	10	7	70%
	2	16	3	3	100%
	3	16	4	4	100%
	4	17	4	3	75%
	5/6	10	10	5	50%

Table B-4. Alignment Summary, Spanish Reading & Writing

Grade	Score Reporting Category (SRC)	Number of items in the SRC	Number of PI	Number of PI Assessed	% of PI Assessed
3	1	40	7	5	71%
	2	20	5	2	40%
	3	33	5	5	100%
4	1	31	8	6	75%
	2	19	7	5	71%
	3	35	5	5	100%
	4	14	5	5	100%
	5	13	6	3	50%
	6	11	4	3	75%

Construct Validity

Construct validity—the meaning of test scores and the inferences they support—is the central concept underlying the *CSAP* validation process. Evidence for construct validity is comprehensive and integrates evidence from both content- and criterion-related validity. For example, to demonstrate comprehensiveness, *CSAP* tests must contain items that represent essential instructional objectives. The following sections present evidence supporting content- and criterion-related validity.

Minimization of Construct-irrelevant Variance and Under-representation

Minimization of construct-irrelevant variance and construct under-representation is addressed in the following steps of the test development process: 1) specification, 2) item writing, 3) review, 4) field testing, 5) test construction, and 6) calibration.

Construct-irrelevant variance refers to error variance that is caused by factors unrelated to the constructs measured by the test. For example, when tests are not administered under standardized conditions (e.g., one administration may be timed, but another administration may be untimed), differences in student performance related to different administration conditions may result. Careful specification of content and review of the

items representing that content are first steps in minimizing construct-irrelevant variance. Then, empirical evidence, especially item-level data, is used to infer construct irrelevance. Items with poor statistical fit or distractors with positive point biserial correlations may indicate that an item is tapping an ability irrelevant to the construct being measured. Differential item functioning with respect to subgroups might also indicate construct irrelevance. Items with these attributes are not selected or are given a lower priority for selection during the test construction stage.

Construct under-representation occurs when the content of the assessment does not reflect the full range of content that the assessment is expected to cover. *CSAP* is designed to represent the Colorado Model Content Standards. Specification and review, in which test blueprints are developed and reviewed, are primary steps in the development process designed to ensure that content is equitably represented.

Internal Structure and Unidimensionality

Analyses of the internal structure of a test can indicate the extent to which the relationships among test items and components conform to the construct the test purports to measure. Educational assessments are usually designed to measure a single overall construct or domain (e.g., Reading achievement). *CSAP* test items are calibrated using unidimensional item response theory (IRT) models, which posits the presence of an essentially unidimensional construct underlying a group of test items and components. Unless tests are designed to have a complex internal structure, a measure of item homogeneity is relevant to validity. The internal consistency coefficient is a measure of item homogeneity. In order for a group of items to be homogeneous, they must measure the same construct (construct validity) or represent the same content domain (content validity). Internal consistency measures, computed as coefficient alpha, for the 2005 *CSAP* tests ranged from 0.87 (Grade 4 Spanish Writing test) to 0.94 (Grade 7 Mathematics) with a median of 0.92. Coefficient alphas for each test are provided in Table 17. Values of 0.90 and above provide strong evidence of internal consistency on the tests. 2005 *CSAP* assessments had strong internal consistency—26 out of 29 tests had coefficient alpha of 0.90 or greater.

When IRT models are used to calibrate test items and to report student scores, demonstrating item fit is also relevant to construct validity. That is, the extent to which test items function as the IRT model in use prescribes is relevant to the validation of test scores. As part of the scaling process all *CSAP* items were examined closely with respect to classical (i.e., p-value and point-biserial) and IRT (Q1) fit indices. Items judged to be poorly fit by the model were visually inspected to decide whether the misfit was substantive in origin or from irrelevant sources such as extreme expectations that often accompany extremely easy or hard items. Very few items (3%) on the 2005 assessments were flagged for poor model fit, indicating that the test items were adequately scaled by the unidimensional IRT models and the resulting scores are interpretable and valid.

Divergent (Discriminant) Validity

Measures of different constructs should not be highly correlated with each other. Divergent validity is a subtype of construct validity that can be estimated by the extent to which measures of constructs that theoretically should not be related to each other are, in fact, observed as not related to each other. Typically, correlation coefficients among measures are examined in support of divergent validity.

To assess the divergent validity of *CSAP* tests, scale scores were obtained and correlated for students who took various *CSAP* subject tests in 2005. Tables B-5 and B-6 show the correlation coefficients among scale scores (and percentile ranks) in different content areas by grade level. The correlation coefficients ranged from 0.688 (between Reading and Mathematics in Grade 3) to 0.857 (between Reading and Writing in Grade 10). The correlation coefficients suggest that individual student scores for Reading, Mathematics, and Writing (and Science in Grade 8) are moderately to highly related. These coefficients are not so low as to call into question whether these tests are tapping into achievement constructs, and not so high as to arouse suspicion that the intended constructs are not distinct.

It is worth noting that the correlation coefficients between Reading and Writing were generally higher than those between Mathematics and Reading and between Mathematics and Writing. It is also interesting to note that in Grade 8 Science is correlated with Reading (0.844) and Mathematics (0.852) to a similar degree; however the correlation between Science and Writing (0.761) was noticeably lower. A similar pattern of correlations have been observed in TerraNova.

Table B-5. Inter-correlation among Content Areas (Scale Scores)

Grade	Content Area	Reading	Writing	Math	Science
3	Reading	1.000	0.744	0.688	
	Writing	0.744	1.000	0.710	
	Mathematics	0.688	0.710	1.000	
4	Reading	1.000	0.820	0.775	
	Writing	0.820	1.000	0.751	
	Mathematics	0.775	0.751	1.000	
5	Reading	1.000	0.812	0.772	
	Writing	0.812	1.000	0.764	
	Mathematics	0.772	0.764	1.000	
6	Reading	1.000	0.829	0.772	
	Writing	0.829	1.000	0.777	
	Mathematics	0.772	0.777	1.000	
7	Reading	1.000	0.835	0.789	
	Writing	0.835	1.000	0.775	
	Mathematics	0.789	0.775	1.000	
8	Reading	1.000	0.840	0.792	0.844
	Writing	0.840	1.000	0.760	0.761
	Mathematics	0.792	0.760	1.000	0.852
	Science	0.844	0.761	0.852	1.000
9	Reading	1.000	0.855	0.794	
	Writing	0.855	1.000	0.786	
	Mathematics	0.794	0.786	1.000	
10	Reading	1.000	0.857	0.774	
	Writing	0.857	1.000	0.765	
	Mathematics	0.774	0.765	1.000	

Table B-6. Inter-correlation among Content Areas (Percentile Ranks)

Grade	Content Area	Reading	Writing	Math	Science
3	Reading	1.000	0.780	0.725	
	Writing	0.780	1.000	0.732	
	Mathematics	0.725	0.732	1.000	
4	Reading	1.000	0.843	0.787	
	Writing	0.843	1.000	0.760	
	Mathematics	0.787	0.760	1.000	
5	Reading	1.000	0.834	0.798	
	Writing	0.834	1.000	0.771	
	Mathematics	0.798	0.771	1.000	
6	Reading	1.000	0.845	0.790	
	Writing	0.845	1.000	0.775	
	Mathematics	0.790	0.775	1.000	
7	Reading	1.000	0.851	0.808	
	Writing	0.851	1.000	0.779	
	Mathematics	0.808	0.779	1.000	
8	Reading	1.000	0.859	0.804	0.855
	Writing	0.859	1.000	0.769	0.761
	Mathematics	0.804	0.769	1.000	0.855
	Science	0.855	0.761	0.855	1.000
9	Reading	1.000	0.885	0.814	
	Writing	0.885	1.000	0.792	
	Mathematics	0.814	0.792	1.000	
10	Reading	1.000	0.875	0.784	
	Writing	0.875	1.000	0.763	
	Mathematics	0.784	0.763	1.000	

Predictive Validity

Predictive validity is a type of criterion validity that refers to the degree to which test scores predict criterion measurements that will be made at some point in the future (Crocker & Algina, 1986). In the context of annual assessment of student proficiency in a content area, the extent to which test scores in a year are predictive of those in the subsequent year can provide evidence for predictive validity. Colorado Model Content Standards in Mathematics, Reading, and Writing are designed to be incremental and progressive from lower to higher grade level, which is the basis for vertical scaling and measuring student growth across years on a common scale. Table B-7 shows predictive validity coefficients measured as the correlation between test scores for two adjacent years (2004-2005) based on matched group of students.

Table B-7. Predictive Validity Coefficients (2004-2005)

Content Area	Grade in 2004	Grade in 2005	Number Matched	Reliability 2004	Reliability 2005	Correlation $r_{2004\text{-}2005}$	Validity Coefficient
Reading	3	4	49,251	0.91	0.93	0.79	0.86
Reading	4	5	51,026	0.93	0.92	0.84	0.91
Reading	5	6	52,116	0.92	0.93	0.85	0.92
Reading	6	7	52,973	0.93	0.93	0.87	0.94
Reading	7	8	52,977	0.93	0.93	0.87	0.93
Reading	8	9	50,731	0.94	0.93	0.87	0.93
Reading	9	10	47,635	0.93	0.93	0.86	0.92
Writing	3	4	49,528	0.91	0.92	0.75	0.82
Writing	4	5	51,356	0.91	0.90	0.80	0.88
Writing	5	6	52,497	0.91	0.90	0.82	0.91
Writing	6	7	53,296	0.92	0.90	0.85	0.93
Writing	7	8	53,216	0.91	0.90	0.84	0.93
Writing	8	9	50,997	0.92	0.92	0.85	0.93
Writing	9	10	47,840	0.92	0.92	0.85	0.93
Mathematics	5	6	52,445	0.94	0.94	0.87	0.93
Mathematics	6	7	53,230	0.94	0.94	0.89	0.95
Mathematics	7	8	52,902	0.93	0.94	0.90	0.97
Mathematics	8	9	50,242	0.93	0.93	0.89	0.96
Mathematics	9	10	46,906	0.93	0.93	0.89	0.95

Factors affecting the measures of predictive validity include the time interval between assessments, reliability of assessments, differential individual and school effects, and so on. The correlation coefficients reported in Table B-7 indicate strong predictability of test scores between two adjacent years. The validity coefficients (corrected for attenuation) are generally the highest in Mathematics, indicating a high degree of determination of performance from one year to next. The lowest validity coefficients are between grades 3 and 4. This may be attributed to the relatively short test length at grade 3, differences in content standards between the grades, and relatively large within-student variability across years.

Appendix C: Classification Consistency and Accuracy

One of the cornerstones of the NCLB Act (2002) is the measurement of adequate yearly progress (AYP) with respect to the percentage of students at or above performance standards set by states. Because of this heavy emphasis on the classification of student performance, a psychometric property of particular interest is how consistently and accurately assessment instruments can classify students into performance categories.

Classification consistency is defined conceptually as the extent to which the performance classifications of students agree given two independent administrations of the same test or two parallel test forms. That is, if students are tested twice on the same test or on two parallel tests what is the likelihood of classifying the students into the same performance categories? It is, however, virtually impractical to obtain data from repeated administrations of the same or parallel forms because of cost, testing burden, and effects of student memory or practice. Therefore, a common practice is to estimate classification consistency from a single administration of a test.

When a method to estimate decision consistency is applied, a contingency table of (H+1) $\times$ (H+1) is constructed, where H is the number of cut scores. For example, with three cut scores, a 4 $\times$4 contingency table can be built as follows (see Table C-1).

Table C-1. Contingency table with 3 cut scores

	Level 1	Level 2	Level 3	Level 4	Sum
Level 1	P_{11}	P_{21}	P_{31}	P_{41}	$P_{.1}$
Level 2	P_{12}	P_{22}	P_{32}	P_{42}	$P_{.2}$
Level 3	P_{13}	P_{23}	P_{33}	P_{43}	$P_{.3}$
Level 4	P_{14}	P_{24}	P_{34}	P_{44}	$P_{.4}$
Sum	$P_{1.}$	$P_{2.}$	$P_{3.}$	$P_{4.}$	1.0

It is common to report two indices of classification consistency, the classification agreement P and coefficient kappa. Hambleton and Novick (1973) proposed P as a measure of classification consistency, where P is defined as sum of diagonal values of the contingency table:

$$P = P_{11} + P_{22} + P_{33} + P_{44.}$$

To reflect statistical chance agreement, Swaminathan, Hambleton, and Algina (1974) suggest using Cohen's kappa (1960):

$$\text{kappa} = \frac{P - P_c}{1 - P_c},$$

where P_c is the chance probability of a consistent classification under two completely random assignments. This probability P_c is the sum of the probabilities obtained by

multiplying the marginal probability of the first administration and the corresponding marginal probability of the second administration:

$$P_c = (P_{1.} \times P_{.1}) + (P_{2.} \times P_{.2}) + (P_{3.} \times P_{.3}) + (P_{4.} \times P_{.4}).$$

Classification accuracy is defined as the extent to which the actual classifications of test takers agree with those that would be made on the basis of their true scores (Livingston & Lewis, 1995). That is, classification consistency refers to the agreement between two observed scores, while classification accuracy refers to the agreement between observed and true scores. Since true scores are unobservable, a psychometric model is typically used to estimate them based on observed scores and the parameters of the model being used.

Classification Consistency and Accuracy when Pattern Scoring is used

A variety of item response theory (IRT) scoring procedures are available for estimating student proficiency scores. Of the most popular score estimation techniques are item-pattern (IP) scoring and number-correct (NC) scoring under the IRT framework. NC scoring considers only how many items a student answered correctly (or the sum of item scores) in determining his or her score. In contrast, the IP scoring method takes into account not only a student's total raw score, but also which items he or she got right.

Several methods have been proposed to measure classification consistency and accuracy based on number-correct (summed) scores. However, few studies have proposed methods for item-pattern (IP) scoring. Kolen and Kim (2004) developed a method to estimate classification consistency and accuracy when IP scoring is used. The following describes the Kolen-Kim (KK) method:

Step 1: Obtain ability distribution weight ($\hat{g}(\theta)$) at each quadrature (θ_j) point *j*.

Step 2: At each quadrature point θ_j, generate two sets of item responses using the item parameters from a test form, assuming that the same test form was administered twice to examinees with the true ability θ_j.

$\theta_j \nearrow$ (1,1,0,0,…: Item response from the first administration) $\longrightarrow$ $\hat{\theta}_{j1}$

$\theta_j \searrow$ (0,1,1,0,…: Item response from the second administration) $\longrightarrow$ $\hat{\theta}_{j2}$

If two parallel (or alternative) forms were used, the two response patterns can be generated based on the item parameters from the two forms. Estimate $\hat{\theta}_{j1}$ and $\hat{\theta}_{j2}$ for the two sets of item responses.

Step 3: Construct a classification matrix (as shown in Table C-2) at each quadrature point (θ_j). Determine the joint probability for the cells in Table C-2 using the two ability estimates obtained from Step 2.

Table C-2. Classification Table for One Cut Point (C_1)[1]

	First administration or Form 1		
	$\hat{\theta}_{ji} \geq C_1$	$\hat{\theta}_{j1} < C_1$	
$\hat{\theta}_{j2} \geq C_1$			Second administration, or Form 2
$\hat{\theta}_{j2} < C_1$			

Step 4: Repeat Steps 2 and 3 *r* times and compute average values over *r* replications. *r* should be a large number, e.g., 500, to obtain stable results.
Step 5: Multiply the distribution weight ($\hat{g}(\theta)$) by the average values obtained in Step 4 for each quadrature point, and sum the results across all quadrature points. From these results a final contingency table can be constructed and classification consistency indices, such as kappa, can be computed. In addition, because examinees' abilities are estimated at each quadrature point, this quadrature point can be considered the true score. Therefore, classification accuracy may be computed using both examinees' estimated abilities (observed scores) and quadrature point (true score).

Table C-3 (composed of two tables) includes the classification consistency and accuracy measures for Grade 3 Mathematics CSAP. The first table is a contingency table with all three cut scores prepared based on the Kolen-Kim procedure. The rows represent the first administration of an assessment, and the columns represent the second administration of the same assessment to the same students. As mentioned above, in the procedure by Kolen and Kim, the score distributions for the first administration and the second administration are estimated using simulation. So, the value in each cell represents the probability of belonging to certain performance levels in two hypothetical administrations. For example, 0.0314 represents the probability of belonging to "unsatisfactory" in the both first and second administrations. The 0.0001 represents the probability of belonging to "Proficient" in the first administration and "Unsatisfactory" in the second administration. "Sum" is obtained simply by adding the four row values or the four column values. The "Observed Score Dist" row shows the distribution of real data belonging to each performance level. In general, it is expected that the sum values and the distribution of observed scores from real data agree.

The second table shows indices for classification consistency and classification accuracy. Each index was described above. Because there are three cut scores for CSAP, four

[1] This table is constructed for each quadrature point and replication. One, and only one, cell will have a value of 1 and zeros elsewhere.

performance levels exist. The values in “All cuts” were obtained by applying all three cuts simultaneously during analysis. From Table C-3 for Mathematics grade 3, classification agreement (P) is 0.6896, chance probability is 0.3354, kappa is 0.5329, and classification accuracy is 0.7629, when all three cuts were used for computation. The values for cut 1 were obtained by applying only the first cut score, 335. Therefore, there are two levels whenever only one cut is applied. It is clear that the values for P, decision accuracy, obtained with all three cuts are smaller than those obtained with only one cut. This explanation is the same for tables for all other grade levels and content areas.

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Table C-3.

Classification Consistency and Classification Accuracy for Mathematics Grade 3

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0314	0.0169	0.0001	0.0000	0.0484
Partially Proficient	0.0162	0.1737	0.0676	0.0009	0.2584
Proficient	0.0002	0.0633	0.3230	0.0736	0.4600
Advanced	0.0000	0.0009	0.0708	0.1615	0.2332
Sum	0.0478	0.2547	0.4615	0.2360	1.0000
Observed Score Dist.	0.0644	0.2359	0.4495	0.2502	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9666	0.8672	0.8538	0.6896
Chance Probability (P_c)	0.9084	0.5763	0.6409	0.3354
Kappa	0.6357	0.6865	0.5929	0.5329
Classification Accuracy	0.9738	0.8912	0.8978	0.7629

Table C-4.

Classification Consistency and Classification Accuracy for Mathematics Grade 4

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0719	0.0204	0.0000	0.0000	0.0924
Partially Proficient	0.0207	0.1941	0.0527	0.0000	0.2676
Proficient	0.0001	0.0525	0.3553	0.0511	0.4591
Advanced	0.0000	0.0001	0.0530	0.1279	0.1810
Sum	0.0927	0.2671	0.4611	0.1791	1.0000
Observed Score Dist.	0.0948	0.2495	0.4215	0.2342	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9587	0.8946	0.8958	0.7493
Chance Probability (P_c)	0.8320	0.5393	0.7048	0.3241
Kappa	0.7544	0.7712	0.6469	0.6290
Classification Accuracy	0.9641	0.9063	0.9050	0.7754

Table C-5.

Classification Consistency and Classification Accuracy for Mathematics Grade 5

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0683	0.0187	0.0001	0.0000	0.0871
Partially Proficient	0.0192	0.1929	0.0479	0.0001	0.2601
Proficient	0.0000	0.0469	0.2951	0.0543	0.3963
Advanced	0.0000	0.0001	0.0584	0.1981	0.2566
Sum	0.0875	0.2586	0.4014	0.2524	1.0000
Observed Score Dist.	0.1058	0.2607	0.3697	0.2637	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9620	0.9049	0.8871	0.7543
Chance Probability (P_c)	0.8407	0.5470	0.6205	0.2987
Kappa	0.7614	0.7901	0.7026	0.6497
Classification Accuracy	0.9653	0.9198	0.9140	0.7991

Table C-6.

Classification Consistency and Classification Accuracy for Mathematics Grade 6

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0848	0.0341	0.0005	0.0000	0.1194
Partially Proficient	0.0324	0.1846	0.0582	0.0003	0.2754
Proficient	0.0003	0.0577	0.2713	0.0481	0.3774
Advanced	0.0000	0.0003	0.0473	0.1802	0.2278
Sum	0.1175	0.2766	0.3773	0.2286	1.0000
Observed Score Dist.	0.1435	0.2866	0.3389	0.2310	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9327	0.8828	0.9041	0.7209
Chance Probability (P_c)	0.7911	0.5223	0.6477	0.2847
Kappa	0.6777	0.7546	0.7276	0.6098
Classification Accuracy	0.9367	0.8884	0.9115	0.7371

Table C-7.

Classification Consistency and Classification Accuracy for Mathematics Grade 7

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.1313	0.0414	0.0000	0.0000	0.1727
Partially Proficient	0.0410	0.2860	0.0480	0.0002	0.3751
Proficient	0.0000	0.0490	0.2215	0.0324	0.3030
Advanced	0.0000	0.0001	0.0321	0.1171	0.1492
Sum	0.1723	0.3765	0.3015	0.1497	1.0000
Observed Score Dist.	0.1607	0.3712	0.2901	0.1780	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9176	0.9028	0.9352	0.7559
Chance Probability (P_c)	0.7145	0.5047	0.7458	0.2847
Kappa	0.7115	0.8037	0.7453	0.6588
Classification Accuracy	0.9151	0.8902	0.9371	0.7424

Table C-8.

Classification Consistency and Classification Accuracy for Mathematics Grade 8

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.1893	0.0462	0.0001	0.0000	0.2356
Partially Proficient	0.0459	0.2348	0.0519	0.0001	0.3328
Proficient	0.0002	0.0534	0.2193	0.0316	0.3045
Advanced	0.0000	0.0002	0.0315	0.0954	0.1272
Sum	0.2354	0.3346	0.3028	0.1271	1.0000
Observed Score Dist.	0.2402	0.3175	0.2845	0.1580	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9077	0.8941	0.9366	0.7389
Chance Probability (P_c)	0.6399	0.5096	0.7780	0.2752
Kappa	0.7435	0.7840	0.7143	0.6397
Classification Accuracy	0.9070	0.8935	0.9429	0.7438

Table C-9.

Classification Consistency and Classification Accuracy for Mathematics Grade 9

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.3197	0.0636	0.0011	0.0000	0.3844
Partially Proficient	0.0580	0.2025	0.0485	0.0003	0.3093
Proficient	0.0010	0.0494	0.1577	0.0218	0.2299
Advanced	0.0000	0.0001	0.0219	0.0543	0.0764
Sum	0.3786	0.3157	0.2292	0.0764	1.0000
Observed Score Dist.	0.3400	0.3176	0.2356	0.1068	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.8763	0.8996	0.9559	0.7342
Chance Probability (P_c)	0.5280	0.5753	0.8589	0.3018
Kappa	0.7379	0.7635	0.6873	0.6194
Classification Accuracy	0.8529	0.8802	0.9527	0.6875

Table C-10.

Classification Consistency and Classification Accuracy for Mathematics Grade 10

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.3328	0.0628	0.0002	0.0000	0.3958
Partially Proficient	0.0589	0.2614	0.0422	0.0000	0.3624
Proficient	0.0002	0.0446	0.1672	0.0082	0.2202
Advanced	0.0000	0.0000	0.0081	0.0135	0.0216
Sum	0.3919	0.3689	0.2176	0.0216	1.0000
Observed Score Dist.	0.3187	0.3782	0.2545	0.0486	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.8779	0.9127	0.9837	0.7748
Chance Probability (P_c)	0.5225	0.6347	0.9577	0.3372
Kappa	0.7443	0.7610	0.6147	0.6602
Classification Accuracy	0.8440	0.8983	0.9835	0.7260

Table C-11.

Classification Consistency and Classification Accuracy for Reading Grade 3

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0406	0.0138	0.0002	0.0000	0.0546
Partially Proficient	0.0146	0.1064	0.0527	0.0000	0.1737
Proficient	0.0003	0.0527	0.6320	0.0309	0.7159
Advanced	0.0000	0.0000	0.0318	0.0240	0.0558
Sum	0.0555	0.1729	0.7167	0.0549	1.0000
Observed Score Dist.	0.0899	0.1771	0.6652	0.0678	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9711	0.8941	0.9373	0.8030
Chance Probability (P_c)	0.8960	0.6476	0.8955	0.5492
Kappa	0.7221	0.6995	0.4004	0.5631
Classification Accuracy	0.9797	0.9214	0.9579	0.8591

Table C-12.

Classification Consistency and Classification Accuracy for Reading Grade 4

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0976	0.0222	0.0001	0.0000	0.1199
Partially Proficient	0.0223	0.1682	0.0502	0.0000	0.2407
Proficient	0.0000	0.0523	0.5098	0.0255	0.5876
Advanced	0.0000	0.0000	0.0269	0.0249	0.0518
Sum	0.1198	0.2427	0.5871	0.0504	1.0000
Observed Score Dist.	0.1282	0.2225	0.5789	0.0704	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9554	0.8974	0.9476	0.8005
Chance Probability (P_c)	0.7890	0.5383	0.9030	0.4203
Kappa	0.7886	0.7778	0.4603	0.6559
Classification Accuracy	0.9640	0.9195	0.9647	0.8483

Table C-13.

Classification Consistency and Classification Accuracy for Reading Grade 5

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0877	0.0228	0.0005	0.0000	0.1110
Partially Proficient	0.0211	0.1397	0.0526	0.0000	0.2134
Proficient	0.0005	0.0554	0.5313	0.0282	0.6154
Advanced	0.0000	0.0000	0.0280	0.0322	0.0602
Sum	0.1093	0.2179	0.6123	0.0605	1.0000
Observed Score Dist.	0.1128	0.1901	0.6019	0.0952	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9550	0.8910	0.9438	0.7909
Chance Probability (P_c)	0.8040	0.5607	0.8866	0.4391
Kappa	0.7705	0.7519	0.5045	0.6272
Classification Accuracy	0.9611	0.9120	0.9605	0.8337

Table C-14.

Classification Consistency and Classification Accuracy for Reading Grade 6

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0634	0.0182	0.0002	0.0000	0.0817
Partially Proficient	0.0175	0.1402	0.0460	0.0000	0.2037
Proficient	0.0002	0.0465	0.5481	0.0327	0.6274
Advanced	0.0000	0.0000	0.0332	0.0539	0.0871
Sum	0.0811	0.2049	0.6274	0.0866	1.0000
Observed Score Dist.	0.1078	0.2135	0.5645	0.1143	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9639	0.9071	0.9342	0.8056
Chance Probability (P_c)	0.8505	0.5918	0.8414	0.4496
Kappa	0.7588	0.7724	0.5849	0.6467
Classification Accuracy	0.9711	0.9270	0.9490	0.8471

Table C-15.

Classification Consistency and Classification Accuracy for Reading Grade 7

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0674	0.0180	0.0001	0.0000	0.0855
Partially Proficient	0.0181	0.1409	0.0440	0.0000	0.2029
Proficient	0.0002	0.0461	0.5546	0.0322	0.6331
Advanced	0.0000	0.0000	0.0330	0.0456	0.0785
Sum	0.0857	0.2049	0.6317	0.0777	1.0000
Observed Score Dist.	0.1293	0.2128	0.5687	0.0892	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9636	0.9097	0.9349	0.8085
Chance Probability (P_c)	0.8435	0.5886	0.8560	0.4549
Kappa	0.7677	0.7805	0.5478	0.6486
Classification Accuracy	0.9714	0.9258	0.9542	0.8514

Table C-16.

Classification Consistency and Classification Accuracy for Reading Grade 8

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0961	0.0240	0.0000	0.0000	0.1201
Partially Proficient	0.0250	0.1960	0.0542	0.0000	0.2751
Proficient	0.0001	0.0515	0.4727	0.0239	0.5482
Advanced	0.0000	0.0000	0.0245	0.0321	0.0566
Sum	0.1211	0.2715	0.5513	0.0560	1.0000
Observed Score Dist.	0.1194	0.2286	0.5635	0.0885	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9509	0.8942	0.9515	0.7968
Chance Probability (P_c)	0.7879	0.5225	0.8937	0.3947
Kappa	0.7686	0.7785	0.5439	0.6642
Classification Accuracy	0.9596	0.9099	0.9656	0.8350

Table C-17.

Classification Consistency and Classification Accuracy for Reading Grade 9

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0704	0.0358	0.0001	0.0000	0.1063
Partially Proficient	0.0369	0.3597	0.0783	0.0002	0.4750
Proficient	0.0001	0.0824	0.2703	0.0225	0.3753
Advanced	0.0000	0.0002	0.0223	0.0210	0.0435
Sum	0.1073	0.4780	0.3709	0.0437	1.0000
Observed Score Dist.	0.0848	0.2347	0.6433	0.0372	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9754	0.9060	0.9710	0.7214
Chance Probability (P_c)	0.9005	0.5848	0.9459	0.3796
Kappa	0.7525	0.7735	0.4648	0.5510
Classification Accuracy	0.9809	0.9200	0.9793	0.7092

Table C-18.

Classification Consistency and Classification Accuracy for Reading Grade 10

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0640	0.0187	0.0000	0.0000	0.0826
Partially Proficient	0.0185	0.1888	0.0448	0.0000	0.2521
Proficient	0.0000	0.0450	0.5266	0.0284	0.5999
Advanced	0.0000	0.0000	0.0273	0.0380	0.0653
Sum	0.0824	0.2524	0.5987	0.0664	1.0000
Observed Score Dist.	0.0895	0.2345	0.5733	0.1028	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9628	0.9102	0.9443	0.8173
Chance Probability (P_c)	0.8485	0.5546	0.8769	0.4340
Kappa	0.7545	0.7984	0.5474	0.6772
Classification Accuracy	0.9695	0.9254	0.9597	0.8546

Table C-19.

Classification Consistency and Classification Accuracy for Science Grade 8

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.1474	0.0376	0.0002	0.0000	0.1853
Partially Proficient	0.0356	0.2500	0.0639	0.0000	0.3496
Proficient	0.0002	0.0632	0.3400	0.0165	0.4198
Advanced	0.0000	0.0000	0.0178	0.0275	0.0453
Sum	0.1832	0.3509	0.4219	0.0440	1.0000
Observed Score Dist.	0.2041	0.2861	0.4286	0.0813	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9263	0.8724	0.9657	0.7648
Chance Probability (P_c)	0.6994	0.5024	0.9147	0.3357
Kappa	0.7549	0.7436	0.5980	0.6460
Classification Accuracy	0.9437	0.9000	0.9733	0.8171

Table C-20.

Classification Consistency and Classification Accuracy for Writing Grade 3

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0402	0.0142	0.0000	0.0000	0.0544
Partially Proficient	0.0144	0.3844	0.0875	0.0006	0.4869
Proficient	0.0000	0.0898	0.2821	0.0287	0.4007
Advanced	0.0000	0.0008	0.0305	0.0267	0.0580
Sum	0.0546	0.4892	0.4002	0.0560	1.0000
Observed Score Dist.	0.0507	0.4024	0.4640	0.0829	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9714	0.8212	0.9394	0.7334
Chance Probability (P_c)	0.8969	0.5036	0.8925	0.4048
Kappa	0.7224	0.6399	0.4367	0.5522
Classification Accuracy	0.9778	0.8712	0.9605	0.8096

Table C-21.

Classification Consistency and Classification Accuracy for Writing Grade 4

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0984	0.0315	0.0000	0.0000	0.1300
Partially Proficient	0.0320	0.3954	0.0829	0.0012	0.5115
Proficient	0.0000	0.0852	0.1996	0.0234	0.3082
Advanced	0.0000	0.0010	0.0247	0.0246	0.0503
Sum	0.1304	0.5131	0.3073	0.0492	1.0000
Observed Score Dist.	0.0788	0.3872	0.4473	0.0867	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9365	0.8974	0.9476	0.7181
Chance Probability (P_c)	0.7736	0.5383	0.9030	0.3766
Kappa	0.7196	0.7778	0.4603	0.5478
Classification Accuracy	0.9353	0.9195	0.9647	0.7340

Table C-22.

Classification Consistency and Classification Accuracy for Writing Grade 5

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0608	0.0298	0.0000	0.0000	0.0907
Partially Proficient	0.0287	0.3395	0.0799	0.0003	0.4484
Proficient	0.0001	0.0841	0.2790	0.0319	0.3951
Advanced	0.0000	0.0002	0.0307	0.0350	0.0658
Sum	0.0895	0.4536	0.3896	0.0672	1.0000
Observed Score Dist.	0.0515	0.3873	0.4567	0.1045	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9413	0.8354	0.9369	0.7143
Chance Probability (P_c)	0.8360	0.5034	0.8758	0.3699
Kappa	0.6422	0.6686	0.4923	0.5465
Classification Accuracy	0.9454	0.8641	0.9538	0.7634

Table C-23.

Classification Consistency and Classification Accuracy for Writing Grade 6

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0649	0.0317	0.0002	0.0000	0.0968
Partially Proficient	0.0327	0.2888	0.0766	0.0002	0.3983
Proficient	0.0005	0.0819	0.3235	0.0289	0.4348
Advanced	0.0000	0.0001	0.0312	0.0388	0.0701
Sum	0.0981	0.4025	0.4315	0.0679	1.0000
Observed Score Dist.	0.0542	0.3434	0.4826	0.1199	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9348	0.8405	0.9396	0.7160
Chance Probability (P_c)	0.8240	0.5000	0.8715	0.3622
Kappa	0.6296	0.6810	0.5299	0.5547
Classification Accuracy	0.9364	0.8505	0.9449	0.7320

Table C-24.

Classification Consistency and Classification Accuracy for Writing Grade 7

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0607	0.0336	0.0002	0.0000	0.0944
Partially Proficient	0.0318	0.3400	0.0834	0.0005	0.4557
Proficient	0.0003	0.0885	0.2562	0.0330	0.3779
Advanced	0.0000	0.0011	0.0333	0.0376	0.0720
Sum	0.0928	0.4631	0.3730	0.0711	1.0000
Observed Score Dist.	0.0493	0.3817	0.4326	0.1364	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9341	0.8261	0.9322	0.6945
Chance Probability (P_c)	0.8303	0.5056	0.8672	0.3659
Kappa	0.6119	0.6482	0.4895	0.5182
Classification Accuracy	0.9334	0.8171	0.9296	0.6807

Table C-25.

Classification Consistency and Classification Accuracy for Writing Grade 8

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0649	0.0374	0.0001	0.0000	0.1024
Partially Proficient	0.0357	0.3994	0.0817	0.0010	0.5179
Proficient	0.0001	0.0890	0.2123	0.0261	0.3275
Advanced	0.0000	0.0009	0.0261	0.0253	0.0522
Sum	0.1007	0.5266	0.3203	0.0524	1.0000
Observed Score Dist.	0.0496	0.4312	0.4318	0.0874	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9267	0.8272	0.9460	0.7020
Chance Probability (P_c)	0.8175	0.5306	0.9009	0.3907
Kappa	0.5982	0.6319	0.4552	0.5109
Classification Accuracy	0.9247	0.8187	0.9560	0.6997

Table C-26.

Classification Consistency and Classification Accuracy for Writing Grade 9

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.0704	0.0358	0.0001	0.0000	0.1063
Partially Proficient	0.0369	0.3597	0.0783	0.0002	0.4750
Proficient	0.0001	0.0824	0.2703	0.0225	0.3753
Advanced	0.0000	0.0002	0.0223	0.0210	0.0435
Sum	0.1073	0.4780	0.3709	0.0437	1.0000
Observed Score Dist.	0.0482	0.4016	0.4707	0.0795	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9272	0.8388	0.9549	0.7214
Chance Probability (P_c)	0.8092	0.5139	0.9166	0.3796
Kappa	0.6183	0.6685	0.4587	0.5510
Classification Accuracy	0.9218	0.8295	0.9576	0.7092

Table C-27.

Classification Consistency and Classification Accuracy for Writing Grade 10

Contingency Table with All Cut Scores

	Unsatisfactory	Partially Proficient	Proficient	Advanced	Sum
Unsatisfactory	0.1125	0.0422	0.0003	0.0000	0.1550
Partially Proficient	0.0450	0.3528	0.0809	0.0007	0.4795
Proficient	0.0001	0.0873	0.2181	0.0200	0.3256
Advanced	0.0000	0.0004	0.0193	0.0203	0.0400
Sum	0.1577	0.4826	0.3186	0.0411	1.0000
Observed Score Dist.	0.0968	0.3987	0.4295	0.0750	1.0000

Indexes for Classification Consistency and Classification Accuracy

	Cut 1	Cut 2	Cut 3	All cuts
Classification Agreement (P)	0.9124	0.8303	0.9596	0.7038
Chance Probability (P_c)	0.7362	0.5377	0.9223	0.3612
Kappa	0.6679	0.6328	0.4801	0.5362
Classification Accuracy	0.8972	0.8283	0.9618	0.6877

Appendix D: Rater Reliability and Severity

The CSAP test design framework includes a variety of different item types, including short response and extended constructed response items. Although constructed-response items greatly enhance the construct and instructional validity of CSAP, reliability of hand-scoring items should be closely examined and documented. Through the ongoing process of training and research analyses, evidence of reliability of hand-scoring is continuously gathered. Many training and monitoring techniques are used to ensure scoring reliability and accuracy. Scoring guides are carefully developed and refined; scorers are trained, calibrated, and monitored throughout the scoring process; and rater reliability indices are generated and examined. Reliability for constructed responses items are typically examined by calculating indices of inter-rater agreement: the reliability with which human raters assign scores to student responses. For this analysis, a certain percentage of student responses are scored by two raters.

Evidence supporting inter-rater reliability of CSAP assessments is presented in terms of raw score means, raw score standard deviations, and percentages of exact and adjacent agreement between raters. Exact agreement is defined as scores that are exactly the same. Adjacent agreement is defined as scores differing by 1 point. In addition, Cohen's kappa is provided as a measure of agreement between the raters. Cohen's kappa (Cohen, 1960) is commonly used to summarize the agreement between raters. It is computed as (Brennan & Prediger, 1981)

$$\kappa = \frac{\sum P_{ii} - \sum P_{i\cdot} P_{\cdot i}}{1 - \sum P_{i\cdot} P_{\cdot i}},$$

where $\sum P_{ii}$ is the observed proportion of agreement and $\sum P_{i\cdot} P_{\cdot i}$ is the chance proportion of agreement. Tables D-1 through D-6 show the rater reliability indices for all 2005 constructed response items by content area.

Rater Severity/Leniency Study

In addition to examining rater reliability measures within a given administration year, CTB also conducts a rater severity study across years. Rater severity or leniency is defined as the extent to which scores assigned by raters across years are systematically offset. The study entails sampling student responses from previous administrations, having a representative group of raters from the current administration score them, and comparing the scores against the scores assigned by the previous raters. The following specifications describe the rater severity study in detail.

1. In 2005, a rater severity study was done using constructed response items that are repeated from 2003 and 2004.

2. Random samples of student responses were selected from the 2003/2004 CSAP tests for tests where repeating items are present:

- A random sample of approximately 1000 students was selected for English Reading and English Writing assessments.

- A random sample of around 250 students was selected for Spanish Reading and Spanish assessments.

- A random sample of approximately 1000 students was selected for Mathematics, grades 5-10.

3. The samples of papers were administered blindly to the 2005 raters during 2005 operational scoring. That is, the raters scoring the papers from a previous administration neither knew that the papers had been scored before, nor that they came from the 2003/2004 data. The items to be rescored were shown to the 2005 raters under their 2005 item numbers. For example, item # 16 in grade 3 Reading in 2005 was previously administered as item # 13 in 2004. Therefore, the 2004 responses to item #13 were rescored in 2005 as item #16.

4. The scores from the rescore were then compared with the original scores given to the papers by the raters in 2003/2004.

Table D-7 shows results of the rater severity study, including mean scores from the 2003/2004 administration, mean scores from the 2005 administration, percent of the scores with exact, adjacent, and discrepant agreement, weighted kappa, correlation, and intraclass correlation.

Table D-1. Rater Reliability Statistics – Mathematics

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
3	5	2	0.81	0.80	0.93	0.92	0.96	95.2	99.1
3	10	2	1.47	1.48	0.74	0.72	0.93	93.1	99.7
3	14	2	0.91	0.91	0.78	0.77	0.98	97.6	100.0
3	20	3	2.09	2.10	0.86	0.86	0.92	89.7	99.5
3	24	2	1.41	1.40	0.61	0.61	0.92	94.4	99.8
3	31	2	1.52	1.50	0.61	0.60	0.90	92.9	99.9
3	36	2	1.53	1.54	0.62	0.62	0.92	94.2	99.8
3	40	3	1.99	1.98	1.13	1.14	0.88	78.2	97.5
4	8	2	1.07	1.06	0.76	0.76	0.93	92.1	100.0
4	11	3	2.05	2.06	0.93	0.94	0.93	88.4	99.7
4	15	2	1.15	1.15	0.80	0.79	0.97	97.0	99.9
4	17	3	2.64	2.65	0.69	0.68	0.88	91.2	99.2
4	23	4	1.17	1.19	1.25	1.26	0.91	81.7	97.4
4	27	2	1.60	1.60	0.54	0.54	0.95	97.4	100.0
4	31	3	1.57	1.58	0.94	0.94	0.95	92.2	99.9
4	34	3	1.38	1.39	1.11	1.12	0.91	84.8	98.3
4	38	2	1.00	0.99	0.91	0.91	0.97	95.7	99.7
4	46	4	2.81	2.80	1.04	1.06	0.93	84.2	99.7
4	52	2	1.64	1.64	0.58	0.58	0.95	97.2	99.8
4	56	3	2.05	2.05	0.98	0.98	0.91	84.1	99.4
4	59	2	1.46	1.45	0.76	0.76	0.96	96.0	99.9
4	65	3	1.60	1.59	1.15	1.15	0.98	95.1	99.8
4	69	4	2.74	2.74	1.44	1.44	0.94	86.2	96.9
5	3	2	1.22	1.22	0.82	0.81	0.93	91.0	100.0
5	9	3	1.98	1.98	0.88	0.88	0.92	88.9	99.7
5	18	3	1.62	1.61	0.93	0.93	0.78	74.4	96.2
5	22	2	1.61	1.60	0.71	0.70	0.76	85.8	96.7
5	23	4	3.20	3.20	1.21	1.21	0.93	87.9	97.7
5	29	2	1.73	1.73	0.55	0.55	0.95	97.0	100.0
5	33	3	1.67	1.68	1.10	1.10	0.98	95.1	100.0
5	37	2	1.44	1.44	0.80	0.80	0.97	96.8	100.0
5	43	3	2.31	2.30	0.99	0.99	0.95	91.7	99.5
5	46	4	2.48	2.49	1.27	1.28	0.95	85.9	99.5
5	51	2	1.50	1.50	0.70	0.70	0.94	93.7	100.0
5	54	3	2.30	2.29	0.86	0.85	0.85	80.2	99.3
5	57	3	2.28	2.29	0.96	0.95	0.91	87.2	99.1
5	60	2	1.29	1.29	0.67	0.66	0.79	82.2	99.7
5	69	4	2.91	2.91	1.21	1.22	0.88	76.8	96.4

Table D-1. Rater Reliability Statistics – Mathematics (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
6	5	3	2.22	2.20	0.86	0.85	0.91	88.2	99.7
6	7	2	1.40	1.40	0.74	0.75	0.92	92.5	99.7
6	12	2	1.11	1.11	0.84	0.84	0.94	91.6	100.0
6	16	3	1.59	1.60	1.11	1.10	0.95	89.8	99.7
6	20	4	3.07	3.06	0.98	0.98	0.84	72.1	99.2
6	24	2	0.47	0.49	0.77	0.78	0.94	92.8	100.0
6	31	3	1.43	1.44	0.96	0.97	0.95	91.7	99.7
6	35	3	2.47	2.46	0.90	0.91	0.94	93.7	99.5
6	37	2	0.41	0.40	0.67	0.66	0.93	95.1	99.7
6	40	4	1.66	1.65	1.26	1.25	0.95	86.2	99.4
6	44	2	0.82	0.83	0.92	0.92	0.92	91.3	98.5
6	47	3	1.58	1.59	0.82	0.82	0.93	91.1	99.7
6	49	2	0.95	0.95	0.85	0.85	0.95	94.3	99.4
6	52	3	1.62	1.60	1.06	1.09	0.92	85.1	99.0
6	60	4	3.22	3.22	1.01	1.03	0.88	80.8	98.0
7	3	2	0.67	0.67	0.86	0.87	0.96	94.7	99.7
7	7	3	1.61	1.64	1.25	1.26	0.91	80.9	97.1
7	11	2	0.42	0.42	0.70	0.72	0.78	82.1	98.6
7	15	3	0.64	0.63	0.99	0.98	0.93	88.7	99.4
7	20	4	1.45	1.47	0.89	0.90	0.89	85.0	99.2
7	26	3	0.80	0.80	0.99	0.99	0.94	88.8	100.0
7	29	2	0.58	0.57	0.78	0.78	0.92	91.3	99.7
7	32	2	0.67	0.66	0.91	0.90	0.93	91.9	99.1
7	34	3	2.16	2.15	0.83	0.83	0.92	89.4	99.9
7	40	4	1.88	1.84	1.18	1.19	0.88	74.7	97.4
7	43	2	0.78	0.78	0.73	0.73	0.95	94.8	99.8
7	49	3	1.60	1.64	1.19	1.18	0.91	79.3	99.2
7	53	2	1.11	1.10	0.84	0.86	0.95	92.6	100.0
7	57	3	1.66	1.67	0.86	0.87	0.95	92.8	100.0
7	60	4	1.57	1.57	1.16	1.17	0.90	78.2	98.3

Table D-1. Rater Reliability Statistics – Mathematics (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
8	2	2	1.19	1.20	0.85	0.85	0.91	88.5	99.3
8	7	3	1.81	1.83	1.14	1.13	0.95	89.8	99.0
8	10	2	0.93	0.93	0.96	0.95	0.95	92.7	99.7
8	15	3	1.03	1.02	0.84	0.82	0.90	90.9	98.3
8	20	4	1.50	1.48	1.15	1.16	0.91	80.6	98.8
8	25	2	0.31	0.31	0.62	0.63	0.89	92.0	99.8
8	28	3	2.04	2.04	0.98	0.96	0.89	82.6	99.5
8	30	2	0.77	0.76	0.94	0.93	0.91	91.9	97.6
8	34	3	0.90	0.91	0.91	0.91	0.90	84.7	99.8
8	40	4	2.26	2.25	1.25	1.27	0.92	79.1	98.2
8	44	2	1.15	1.16	0.85	0.85	0.85	79.5	99.7
8	48	3	2.12	2.11	1.09	1.08	0.89	78.4	98.8
8	50	2	0.81	0.82	0.95	0.96	0.94	94.6	98.3
8	53	3	1.41	1.44	1.22	1.19	0.90	76.4	98.3
8	60	4	2.22	2.25	1.06	1.09	0.87	80.0	97.2
9	4	2	0.72	0.72	0.69	0.69	0.84	84.9	99.9
9	10	3	1.37	1.36	0.95	0.96	0.93	87.8	100.0
9	13	2	0.55	0.55	0.86	0.87	0.94	95.1	98.7
9	15	3	0.99	1.00	0.81	0.83	0.91	92.5	98.7
9	20	4	1.18	1.22	1.04	1.07	0.94	86.5	99.9
9	24	2	0.38	0.39	0.73	0.74	0.92	94.1	99.3
9	29	3	1.01	0.99	0.97	0.97	0.95	93.0	99.4
9	32	2	0.54	0.54	0.71	0.71	0.83	88.0	98.2
9	36	3	0.78	0.77	0.77	0.77	0.88	86.8	99.4
9	40	4	2.36	2.38	1.01	1.03	0.82	68.1	98.2
9	44	2	0.49	0.50	0.83	0.84	0.95	95.4	99.3
9	48	3	0.99	0.99	1.07	1.07	0.95	88.7	100.0
9	52	2	0.58	0.59	0.72	0.73	0.90	89.4	100.0
9	54	3	1.42	1.42	1.20	1.19	0.93	84.4	98.7
9	60	4	1.37	1.36	0.92	0.92	0.86	82.7	98.1

Table D-1. Rater Reliability Statistics – Mathematics (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
10	4	2	0.72	0.72	0.67	0.67	0.89	91.0	99.8
10	8	3	0.60	0.58	0.84	0.84	0.91	89.2	99.5
10	12	2	1.13	1.13	0.68	0.67	0.89	90.1	99.8
10	15	3	2.03	2.04	0.96	0.97	0.92	86.4	99.5
10	20	4	1.13	1.12	1.31	1.30	0.94	83.4	99.0
10	24	2	0.51	0.51	0.82	0.83	0.96	96.7	99.5
10	28	3	1.25	1.25	1.03	1.04	0.97	94.9	99.5
10	31	2	1.08	1.09	0.62	0.62	0.93	94.6	100.0
10	36	3	0.88	0.86	0.85	0.83	0.88	85.4	99.3
10	40	4	1.96	1.97	1.09	1.09	0.88	78.6	97.7
10	44	2	0.60	0.60	0.72	0.72	0.93	92.5	100.0
10	48	3	1.18	1.17	1.12	1.11	0.90	81.3	98.0
10	52	2	0.81	0.82	0.69	0.69	0.95	95.1	100.0
10	54	3	0.57	0.57	0.66	0.66	0.82	87.9	98.8
10	60	4	0.67	0.68	0.81	0.80	0.87	85.7	99.3

Table D-2. Rater Reliability Statistics – Reading

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
3	4	2	1.08	1.09	0.95	0.95	0.96	95.2	99.5
3	9	4	2.49	2.52	1.43	1.46	0.78	63.5	87.8
3	11	2	0.88	0.85	0.89	0.88	0.94	93.5	99.2
3	16	4	2.53	2.57	1.40	1.40	0.76	65.2	92.2
3	21	2	1.84	1.83	0.53	0.55	0.92	97.6	99.2
3	22	2	0.80	0.81	0.77	0.76	0.86	85.4	99.5
3	27	3	2.36	2.35	0.89	0.89	0.73	73.2	95.4
3	34	2	1.52	1.52	0.70	0.71	0.77	80.7	98.9
4	9	2	1.21	1.18	0.87	0.88	0.95	93.4	99.7
4	14	3	1.36	1.37	1.27	1.27	0.84	83.2	91.0
4	15	3	0.69	0.64	1.07	1.06	0.82	80.7	95.0
4	16	2	1.19	1.19	0.80	0.81	0.84	83.1	98.6
4	17	2	1.48	1.46	0.74	0.75	0.89	89.9	99.5
4	25	2	1.91	1.91	0.39	0.39	0.91	98.0	99.7
4	26	2	0.90	0.91	0.74	0.73	0.83	85.1	98.8
4	36	3	1.67	1.68	1.14	1.15	0.84	81.1	93.9
4	41	2	0.85	0.84	0.79	0.81	0.82	79.5	99.4
4	44	4	2.56	2.61	1.30	1.33	0.89	76.8	95.5
4	48	2	1.50	1.51	0.73	0.71	0.90	89.9	99.9
4	49	2	1.29	1.29	0.66	0.65	0.83	86.0	99.7
4	58	3	2.46	2.46	0.97	0.97	0.98	97.3	99.7
4	66	2	1.72	1.71	0.65	0.67	0.93	94.7	99.7
5	9	2	1.29	1.30	0.79	0.79	0.86	85.5	98.9
5	12	3	2.07	2.09	1.12	1.13	0.95	88.7	99.7
5	13	2	0.99	1.00	0.76	0.77	0.76	76.4	98.7
5	21	3	1.78	1.79	1.14	1.16	0.89	77.9	97.8
5	22	2	1.21	1.22	0.83	0.81	0.91	88.3	99.7
5	23	2	1.49	1.48	0.68	0.69	0.80	83.0	99.3
5	25	3	1.68	1.68	1.26	1.24	0.89	82.4	96.2
5	34	3	1.80	1.74	1.12	1.14	0.84	79.5	94.6
5	35	2	0.40	0.39	0.58	0.59	0.78	86.0	99.5
5	47	2	1.36	1.35	0.69	0.72	0.71	73.4	99.3
5	48	2	0.76	0.73	0.79	0.77	0.92	90.7	99.8
5	55	2	0.92	0.90	0.86	0.85	0.94	91.8	99.7
5	60	2	1.66	1.65	0.62	0.63	0.91	92.9	100.0
5	61	2	1.29	1.29	0.61	0.61	0.84	88.6	99.8

Table D-2. Rater Reliability Statistics – Reading (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
6	19	3	1.96	1.98	1.19	1.19	0.96	92.1	99.1
6	20	2	0.32	0.31	0.64	0.64	0.93	94.9	99.8
6	27	2	1.34	1.34	0.76	0.76	0.93	92.8	99.9
6	28	2	1.64	1.63	0.60	0.61	0.86	90.8	99.8
6	30	3	1.79	1.81	1.24	1.24	0.92	87.8	97.6
6	39	2	1.01	1.01	0.54	0.53	0.69	82.7	99.9
6	40	3	1.74	1.73	1.08	1.07	0.71	61.9	92.3
6	41	2	1.44	1.44	0.69	0.67	0.79	80.6	100.0
6	42	2	0.53	0.53	0.65	0.64	0.84	87.8	99.8
6	49	3	1.22	1.24	1.05	1.05	0.86	77.9	97.5
6	56	2	0.94	0.93	0.85	0.83	0.93	91.1	99.8
6	57	2	0.61	0.63	0.76	0.77	0.81	80.3	99.2
6	59	2	0.93	0.94	0.85	0.85	0.90	88.3	99.1
6	67	2	0.69	0.70	0.68	0.68	0.85	87.4	99.7
7	1	3	2.11	2.10	1.14	1.13	0.94	89.9	98.7
7	2	2	0.43	0.44	0.71	0.72	0.86	90.3	98.6
7	18	3	1.55	1.53	1.13	1.15	0.90	80.2	98.5
7	19	2	1.23	1.23	0.79	0.80	0.83	81.2	99.2
7	22	2	1.34	1.33	0.75	0.75	0.85	84.7	99.5
7	32	3	2.46	2.42	0.90	0.95	0.87	89.2	96.8
7	33	2	1.28	1.29	0.81	0.80	0.78	76.0	98.3
7	34	2	1.42	1.40	0.82	0.82	0.89	88.5	98.9
7	41	3	1.44	1.40	1.20	1.19	0.86	78.1	94.7
7	47	2	1.26	1.27	0.81	0.81	0.88	88.4	98.7
7	49	2	1.10	1.09	0.84	0.84	0.75	71.2	97.8
7	50	2	1.00	1.01	0.83	0.83	0.82	80.0	98.6
7	51	2	1.28	1.26	0.76	0.77	0.77	77.8	98.4
7	70	2	0.80	0.80	0.55	0.54	0.78	87.3	100.0

Table D-2. Rater Reliability Statistics – Reading (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
8	7	2	1.42	1.43	0.74	0.74	0.68	72.5	97.5
8	12	3	0.96	0.96	1.15	1.17	0.79	77.2	93.5
8	15	3	2.16	2.16	1.02	1.03	0.96	93.7	99.7
8	19	2	0.83	0.83	0.78	0.77	0.75	75.3	98.3
8	20	3	1.53	1.53	1.19	1.20	0.87	76.2	96.4
8	28	2	1.39	1.41	0.75	0.75	0.84	85.7	98.9
8	29	2	1.50	1.50	0.74	0.75	0.90	90.1	99.7
8	35	3	1.55	1.59	1.17	1.17	0.87	75.4	96.5
8	38	2	1.21	1.21	0.82	0.82	0.77	76.2	97.5
8	39	2	1.12	1.09	0.82	0.82	0.86	82.0	99.7
8	40	2	1.31	1.32	0.75	0.76	0.78	79.7	98.5
8	57	4	2.12	2.11	1.10	1.08	0.84	72.4	96.9
8	58	2	1.30	1.29	0.83	0.83	0.94	92.0	99.9
8	59	4	2.86	2.82	1.13	1.18	0.84	71.3	96.8
8	63	2	0.56	0.58	0.75	0.75	0.86	86.7	99.4
9	1	2	1.07	1.01	0.81	0.81	0.79	75.7	98.7
9	2	3	1.76	1.73	1.17	1.18	0.84	74.6	96.0
9	10	2	1.41	1.43	0.68	0.68	0.77	79.8	99.6
9	11	2	1.16	1.21	0.70	0.70	0.72	76.3	98.9
9	20	3	1.25	1.28	1.23	1.24	0.77	75.5	91.6
9	23	3	2.29	2.29	0.98	0.98	0.94	93.1	99.4
9	31	3	1.91	1.93	1.22	1.21	0.78	74.2	88.6
9	41	3	1.35	1.39	1.01	0.99	0.78	70.3	96.1
9	44	3	1.84	1.86	1.09	1.09	0.91	86.6	97.6
9	49	3	2.14	2.13	1.10	1.08	0.91	82.2	98.6
9	55	3	0.99	1.02	1.13	1.13	0.88	79.3	97.1
9	58	2	0.41	0.44	0.64	0.67	0.84	88.7	99.3
9	59	2	0.75	0.75	0.82	0.81	0.94	92.4	99.9
9	61	3	0.95	1.00	1.05	1.08	0.75	66.3	92.8
9	67	2	1.38	1.37	0.83	0.83	0.82	81.2	98.2

Table D-2. Rater Reliability Statistics – Reading (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
10	1	2	1.54	1.51	0.63	0.66	0.79	83.4	99.6
10	2	2	1.31	1.32	0.71	0.68	0.74	78.0	99.0
10	12	4	2.07	2.11	1.40	1.41	0.95	87.0	98.4
10	13	2	1.02	1.02	0.78	0.78	0.97	97.2	99.9
10	27	3	1.87	1.86	1.22	1.23	0.85	86.1	93.4
10	28	3	2.21	2.20	1.02	1.04	0.77	80.7	93.0
10	29	3	1.59	1.58	1.19	1.21	0.81	69.3	92.1
10	35	2	0.96	0.97	0.78	0.79	0.63	65.8	96.3
10	41	3	1.09	1.10	1.02	1.02	0.88	79.2	98.6
10	46	4	2.52	2.51	1.46	1.45	0.93	77.0	97.9
10	47	2	1.22	1.19	0.75	0.75	0.86	84.7	100.0
10	54	3	1.09	1.07	1.15	1.14	0.72	61.4	89.7
10	60	2	1.50	1.51	0.76	0.76	0.82	82.6	99.0
10	70	3	2.45	2.45	0.91	0.91	0.92	87.9	99.4

Table D-3. Rater Reliability Statistics – Writing

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
3	1	1	0.84	0.85	0.37	0.36	0.91	97.5	100.0
3	2	1	0.35	0.35	0.48	0.48	0.96	98.4	100.0
3	3	1	0.55	0.55	0.50	0.50	0.98	98.8	100.0
3	4	1	0.73	0.73	0.45	0.45	0.96	98.5	100.0
3	5	1	0.71	0.71	0.45	0.45	0.96	98.5	100.0
3	6	1	0.81	0.82	0.39	0.39	0.92	97.5	100.0
3	18	2	1.12	1.15	0.47	0.49	0.55	80.9	99.5
3	19	1	0.95	0.96	0.22	0.19	0.53	96.1	100.0
3	20	1	0.83	0.81	0.38	0.39	0.36	81.1	100.0
3	21	1	0.93	0.95	0.25	0.23	0.49	94.1	100.0
3	37	2	1.11	1.14	0.42	0.42	0.50	82.7	99.9
3	38	1	0.95	0.95	0.22	0.22	0.43	94.6	100.0
3	39	1	0.82	0.82	0.39	0.38	0.35	80.5	100.0
3	40	1	0.80	0.79	0.40	0.41	0.57	86.0	100.0
3	50	2	1.05	1.07	0.33	0.39	0.45	86.1	99.9
3	51	1	0.95	0.95	0.21	0.21	0.45	95.2	100.0
3	52	1	0.80	0.79	0.40	0.41	0.29	76.5	100.0
3	53	1	0.79	0.78	0.41	0.41	0.50	83.2	100.0
4	1	1	0.92	0.92	0.28	0.27	0.76	96.4	100.0
4	2	1	0.77	0.77	0.42	0.42	0.83	93.8	100.0
4	3	1	0.82	0.82	0.39	0.39	0.92	97.6	100.0
4	4	1	0.92	0.93	0.27	0.26	0.77	96.8	100.0
4	5	1	0.67	0.66	0.47	0.47	0.95	97.6	100.0
4	6	1	0.96	0.96	0.20	0.19	0.72	97.9	100.0
4	7	1	0.30	0.30	0.46	0.46	0.94	97.6	100.0
4	8	4	2.66	2.67	0.85	0.82	0.67	60.8	97.9
4	9	4	2.65	2.63	0.83	0.80	0.63	60.2	97.2
4	10	2	1.72	1.70	0.46	0.48	0.50	77.9	100.0
4	11	4	2.64	2.60	0.86	0.82	0.70	64.3	98.5
4	26	4	2.67	2.66	0.78	0.77	0.69	65.1	99.1
4	53	4	2.54	2.57	0.89	0.87	0.69	62.8	97.4

Table D-3. Rater Reliability Statistics – Writing (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
5	1	1	0.97	0.97	0.18	0.18	0.95	99.7	100.0
5	2	1	0.57	0.57	0.50	0.50	0.96	98.0	100.0
5	3	1	0.39	0.39	0.49	0.49	0.98	98.8	100.0
5	4	1	0.93	0.93	0.26	0.26	0.71	96.2	100.0
5	5	1	0.67	0.67	0.47	0.47	0.91	95.8	100.0
5	6	1	0.62	0.63	0.48	0.48	0.95	97.7	100.0
5	7	1	0.42	0.43	0.49	0.50	0.96	98.2	100.0
5	8	4	2.61	2.63	1.16	1.14	0.62	54.6	91.8
5	9	4	2.75	2.73	0.96	0.93	0.69	56.1	96.9
5	10	2	1.82	1.82	0.39	0.39	0.52	86.3	99.7
5	29	4	2.91	2.92	0.77	0.78	0.71	68.2	99.0
5	52	4	2.53	2.51	0.77	0.79	0.72	68.0	99.5
5	53	4	2.81	2.83	0.77	0.77	0.73	69.8	99.2
6	1	1	0.97	0.97	0.17	0.16	0.98	99.9	100.0
6	2	1	0.79	0.79	0.41	0.40	0.94	98.2	100.0
6	3	1	0.79	0.79	0.40	0.40	0.90	96.8	100.0
6	4	1	0.52	0.53	0.50	0.50	0.95	97.7	100.0
6	5	1	0.59	0.58	0.49	0.49	0.95	97.7	100.0
6	6	1	0.72	0.72	0.45	0.45	0.94	97.6	100.0
6	7	1	0.22	0.22	0.42	0.42	0.95	98.3	100.0
6	8	4	2.40	2.42	0.73	0.76	0.68	67.5	99.2
6	9	4	2.40	2.41	0.72	0.73	0.60	61.9	98.6
6	10	2	1.83	1.82	0.38	0.39	0.43	83.3	100.0
6	31	4	2.46	2.45	0.76	0.74	0.71	69.8	99.5
6	52	4	2.42	2.42	0.77	0.77	0.75	72.0	99.4
6	53	4	2.42	2.42	0.86	0.86	0.73	68.1	98.1
7	1	1	0.98	0.97	0.16	0.16	0.94	99.7	100.0
7	2	1	0.78	0.78	0.42	0.41	0.93	97.6	100.0
7	3	1	0.74	0.74	0.44	0.44	0.92	96.8	100.0
7	4	1	0.72	0.72	0.45	0.45	0.94	97.4	100.0
7	5	1	0.56	0.57	0.50	0.50	0.97	98.6	100.0
7	6	1	0.62	0.61	0.49	0.49	0.96	98.2	100.0
7	7	1	0.45	0.45	0.50	0.50	0.93	96.7	100.0
7	8	4	2.44	2.44	0.80	0.79	0.67	63.5	98.5
7	9	4	2.42	2.42	0.73	0.72	0.60	62.2	98.6
7	10	2	1.89	1.88	0.31	0.33	0.35	86.7	100.0
7	11	4	2.43	2.44	0.77	0.77	0.71	68.1	99.3
7	25	4	2.40	2.40	0.74	0.75	0.67	66.9	99.0
7	53	4	2.22	2.24	0.76	0.76	0.70	68.7	99.2

Table D-3. Rater Reliability Statistics – Writing (continued)

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
8	1	1	0.96	0.96	0.19	0.19	0.97	99.8	100.0
8	2	1	0.73	0.73	0.44	0.44	0.92	96.9	100.0
8	3	1	0.56	0.56	0.50	0.50	0.98	99.2	100.0
8	4	1	0.44	0.44	0.50	0.50	0.94	97.3	100.0
8	5	1	0.36	0.36	0.48	0.48	0.96	98.3	100.0
8	6	1	0.39	0.39	0.49	0.49	0.99	99.4	100.0
8	7	1	0.91	0.91	0.29	0.29	0.89	98.2	100.0
8	8	4	2.50	2.52	0.75	0.75	0.73	70.9	99.7
8	9	4	2.50	2.51	0.74	0.73	0.72	70.1	99.7
8	10	2	1.85	1.86	0.36	0.35	0.44	86.0	100.0
8	11	4	2.49	2.48	0.79	0.79	0.77	72.7	99.3
8	27	4	2.47	2.47	0.78	0.79	0.77	71.7	99.9
8	53	4	2.30	2.31	0.80	0.81	0.74	67.9	99.5
9	1	1	0.95	0.95	0.21	0.21	0.94	99.5	100.0
9	2	1	0.53	0.53	0.50	0.50	0.94	97.0	100.0
9	3	1	0.67	0.66	0.47	0.47	0.97	98.5	100.0
9	4	1	0.16	0.16	0.37	0.37	0.96	98.9	100.0
9	5	1	0.37	0.37	0.48	0.48	0.97	98.7	100.0
9	6	1	0.47	0.48	0.50	0.50	0.95	97.8	100.0
9	7	1	0.24	0.24	0.42	0.43	0.95	98.3	100.0
9	8	4	2.36	2.35	0.69	0.67	0.70	72.8	100.0
9	9	4	2.35	2.33	0.64	0.63	0.65	72.3	99.7
9	10	2	1.81	1.84	0.39	0.37	0.45	84.2	100.0
9	34	4	2.56	2.52	0.75	0.76	0.71	67.6	99.7
9	52	4	2.37	2.35	0.80	0.80	0.74	69.5	99.0
9	53	4	2.38	2.37	0.80	0.79	0.72	66.2	99.4
10	1	1	0.95	0.95	0.22	0.21	0.96	99.6	100.0
10	2	1	0.95	0.95	0.21	0.21	0.94	99.5	100.0
10	3	1	0.84	0.84	0.37	0.36	0.91	97.5	100.0
10	4	1	0.69	0.70	0.46	0.46	0.93	97.2	100.0
10	5	1	0.48	0.48	0.50	0.50	0.91	95.7	100.0
10	6	1	0.84	0.84	0.37	0.37	0.92	97.8	100.0
10	7	1	0.56	0.57	0.50	0.50	0.96	98.1	100.0
10	8	4	2.41	2.41	0.65	0.65	0.66	75.0	99.2
10	9	4	2.38	2.38	0.66	0.69	0.64	70.8	98.8
10	10	2	1.83	1.82	0.38	0.39	0.52	85.7	100.0
10	11	4	2.40	2.41	0.86	0.90	0.75	66.6	98.7
10	33	4	2.64	2.67	0.73	0.75	0.73	72.2	99.6
10	53	4	2.38	2.37	0.79	0.83	0.78	72.8	99.3

Table D-4. Rater Reliability Statistics – Science

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
8	2	2	0.55	0.56	0.63	0.63	0.96	96.7	100.0
8	9	2	0.82	0.82	0.79	0.78	0.92	90.9	99.8
8	19	1	0.44	0.44	0.50	0.50	0.88	94.1	100.0
8	20	4	2.14	2.19	1.40	1.41	0.89	73.5	94.9
8	21	1	0.58	0.58	0.49	0.49	0.89	94.5	100.0
8	22	1	0.59	0.59	0.49	0.49	0.95	97.3	100.0
8	23	1	0.65	0.64	0.48	0.48	0.79	90.3	100.0
8	24	3	1.64	1.65	1.05	1.06	0.94	87.8	99.3
8	25	2	0.36	0.35	0.74	0.74	0.99	99.0	99.8
8	29	2	0.60	0.62	0.75	0.75	0.86	84.6	99.8
8	31	1	0.25	0.24	0.43	0.43	0.78	91.9	100.0
8	33	2	0.65	0.65	0.54	0.55	0.90	94.2	100.0
8	39	2	0.89	0.89	0.75	0.75	0.84	84.0	99.3
8	41	2	0.51	0.50	0.66	0.68	0.89	90.3	100.0
8	55	2	0.19	0.19	0.45	0.45	0.91	96.3	100.0
8	57	2	0.74	0.74	0.92	0.92	0.99	98.8	100.0
8	63	2	0.26	0.26	0.53	0.52	0.76	88.0	99.7
8	66	2	1.64	1.62	0.63	0.64	0.73	83.4	98.4
8	77	1	0.53	0.53	0.50	0.50	0.81	90.4	100.0
8	78	2	0.25	0.26	0.45	0.45	0.88	95.2	100.0

Table D-5. Rater Reliability Statistics – Spanish Reading

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
3	5	2	1.40	1.47	0.68	0.63	0.83	85.5	100.0
3	9	2	1.53	1.53	0.84	0.84	0.97	96.4	100.0
3	14	2	1.19	1.17	0.85	0.86	0.99	98.2	100.0
3	20	2	0.84	0.78	0.84	0.86	0.85	78.0	100.0
3	21	3	1.37	1.39	1.25	1.32	0.84	71.4	95.9
3	28	2	1.52	1.54	0.75	0.66	0.75	81.5	98.2
3	29	2	0.74	0.67	0.78	0.75	0.81	83.3	98.1
3	33	2	1.09	1.09	0.70	0.73	0.89	89.1	100.0
4	8	4	2.90	2.90	1.52	1.60	0.98	89.7	100.0
4	10	3	0.46	0.44	0.87	0.87	0.92	87.8	100.0
4	12	2	0.72	0.82	0.89	0.94	0.84	89.7	94.9
4	25	3	2.27	2.32	1.18	1.13	0.96	90.2	100.0
4	28	2	0.67	0.72	0.84	0.86	0.85	87.2	97.4
4	30	3	0.90	0.98	0.98	1.12	0.76	70.0	92.5
4	35	2	1.16	1.16	0.68	0.64	0.69	81.6	97.4
4	36	1	0.55	0.50	0.50	0.51	0.68	84.2	100.0
4	37	3	1.65	1.57	1.06	1.01	0.88	75.7	100.0
4	55	2	1.49	1.51	0.71	0.60	0.80	82.9	100.0
4	57	2	1.10	1.13	1.01	0.97	0.75	82.5	90.0
4	68	4	1.36	1.41	1.55	1.60	0.99	94.9	100.0
4	69	2	0.41	0.44	0.75	0.75	0.98	97.4	100.0
4	70	2	0.18	0.31	0.45	0.61	0.60	84.6	97.4

Table D-6. Rater Reliability Statistics – Spanish Writing

Grade	Item	Max Score	Mean Rater 1	Mean Rater 2	SD Rater 1	SD Rater 2	Weighted Kappa	Exact Agreement	Adjacent Agreement
3	7	1	0.82	0.82	0.39	0.39	1.00	100.0	100.0
3	8	1	0.84	0.85	0.36	0.36	0.92	98.0	100.0
3	9	1	0.30	0.30	0.46	0.46	0.82	92.6	100.0
3	10	1	0.72	0.72	0.45	0.45	0.80	91.9	100.0
3	11	1	0.57	0.55	0.50	0.50	0.97	98.7	100.0
3	12	1	0.53	0.53	0.50	0.50	0.95	97.3	100.0
3	18	2	1.38	1.41	0.60	0.59	0.72	80.3	100.0
3	19	1	0.81	0.76	0.39	0.43	0.50	83.0	100.0
3	20	1	0.76	0.76	0.43	0.43	0.87	95.2	100.0
3	21	1	0.97	0.97	0.18	0.18	1.00	100.0	100.0
3	39	2	1.32	1.33	0.60	0.58	0.63	75.0	100.0
3	40	1	0.75	0.80	0.43	0.40	0.60	85.8	100.0
3	41	1	0.68	0.70	0.47	0.46	0.89	95.3	100.0
3	42	1	0.93	0.93	0.25	0.25	0.89	98.7	100.0
3	50	2	1.20	1.20	0.62	0.60	0.64	73.5	100.0
3	51	1	0.76	0.76	0.43	0.43	0.72	89.8	100.0
3	52	1	0.65	0.63	0.48	0.49	0.85	93.2	100.0
3	53	1	0.87	0.88	0.34	0.32	0.81	95.9	100.0
4	1	1	1.00	1.00	0.00	0.00	.	100.0	100.0
4	2	1	0.22	0.22	0.42	0.42	0.86	95.1	100.0
4	3	1	0.78	0.78	0.42	0.42	0.86	95.1	100.0
4	4	1	0.37	0.37	0.49	0.49	1.00	100.0	100.0
4	5	1	0.37	0.34	0.49	0.48	0.95	97.6	100.0
4	6	1	0.34	0.37	0.48	0.49	0.95	97.6	100.0
4	7	1	0.85	0.85	0.36	0.36	0.80	95.1	100.0
4	8	4	2.28	2.28	0.96	0.93	0.83	77.5	97.5
4	9	4	2.30	2.38	0.82	0.84	0.80	72.5	100.0
4	10	2	1.28	1.23	0.51	0.48	0.37	70.0	100.0
4	11	4	2.03	1.97	0.92	1.01	0.81	65.7	100.0
4	48	4	0.74	0.64	1.35	1.11	0.90	84.6	94.9
4	53	4	2.40	2.28	1.06	1.04	0.85	67.5	100.0

Table D-7. Rater Severity Study Results

Content	Grade	2003/4 Item Number	2005 Item Number	Valid N	Mean 2003/4	Mean 2005	Mean Difference	STD 2003/4	STD 2005	% Adjacent	% Precise	% Discrepant	Corr	Intra Class Corr	Weighted Kappa
MA	5	5	3	1118	1.40	1.26	0.14	0.68	0.82	18.25	81.66	0.09	0.87	0.92	0.84
MA	5	33	57	1050	2.22	2.20	0.02	0.98	0.98	14.76	84.67	0.57	0.91	0.96	0.91
MA	5	61	60	1098	1.11	1.18	-0.07	0.76	0.65	29.96	69.58	0.46	0.69	0.84	0.68
MA	6	7	7	1118	1.40	1.26	0.14	0.68	0.82	18.25	81.66	0.09	0.87	0.92	0.84
MA	6	20	20	1020	3.06	2.90	0.16	1.03	1.02	24.31	73.24	2.45	0.85	0.92	0.84
MA	7	31	32	1085	0.44	0.47	-0.03	0.76	0.81	10.23	87.65	2.12	0.85	0.92	0.85
MA	7	34	34	1045	2.03	2.07	-0.04	0.90	0.89	12.25	87.37	0.38	0.92	0.96	0.91
MA	8	28	28	961	1.78	1.63	0.15	1.03	1.06	26.74	71.70	1.56	0.86	0.93	0.85
MA	8	30	30	1085	0.44	0.47	-0.03	0.76	0.81	10.23	87.65	2.12	0.85	0.92	0.85
MA	8	53	53	1018	1.18	1.01	0.17	1.11	1.05	23.48	73.18	3.34	0.85	0.92	0.84
MA	8	60	60	1094	2.01	1.92	0.09	1.01	1.02	17.92	80.07	2.01	0.87	0.93	0.87
MA	9	40	40	1040	1.81	2.10	-0.29	1.15	1.07	42.31	53.17	4.52	0.79	0.88	0.76
MA	9	28	54	1018	1.18	1.01	0.17	1.11	1.05	23.48	73.18	3.34	0.85	0.92	0.84
MA	10	33	15	1075	2.08	2.09	-0.01	0.91	0.89	18.05	81.30	0.65	0.87	0.94	0.87
MA	10	40	40	1056	1.87	1.70	0.17	0.97	1.05	39.96	56.34	3.69	0.74	0.86	0.73

Table D-7. Rater Severity Study Results (continued)

Content	Grade	2003/4 Item Number	2005 Item Number	Valid N	Mean 2003/4	Mean 2005	Mean Difference	STD 2003/4	STD 2005	% Adjacent	% Precise	% Discrepant	Corr	Intra Class Corr	Weighted Kappa
RD	3	36	34	1081	1.55	1.47	0.08	0.71	0.75	18.13	80.20	1.67	0.78	0.88	0.77
RD	4	10	17	1065	1.41	1.42	-0.01	1.24	1.25	8.73	83.66	7.61	0.86	0.93	0.86
RD	4	108	104	1037	2.51	2.51	0.00	0.93	0.92	1.64	97.97	0.39	0.98	0.99	0.98
RD	5	15	24	1002	1.92	1.94	-0.02	1.02	1.02	18.06	81.04	0.90	0.90	0.95	0.90
RD	7	23	22	1000	1.25	1.22	0.03	0.81	0.82	12.70	84.70	2.60	0.83	0.91	0.83
RD	7	25	26	1570	1.06	1.09	-0.03	0.81	0.75	16.69	82.55	0.76	0.84	0.92	0.84
RD	8	98	103	1006	2.25	2.10	0.15	1.10	1.11	35.09	59.64	5.27	0.78	0.88	0.77
RD	8	109	104	970	1.15	1.14	0.01	0.86	0.86	6.39	93.40	0.21	0.95	0.98	0.95
RD	9	29	34	1042	1.96	1.95	0.01	1.17	1.21	23.42	67.95	8.64	0.78	0.89	0.78
RD	9	100	100	1025	0.84	0.71	0.13	1.05	0.99	16.98	79.12	3.90	0.84	0.92	0.83
RD	10	100	93	929	1.26	1.17	0.09	0.75	0.76	21.53	77.93	0.54	0.80	0.90	0.79
RD	10	121	116	1052	2.58	2.57	0.01	0.76	0.78	12.45	87.07	0.48	0.88	0.94	0.88
WR	4	71	65	1040	2.47	2.55	-0.08	0.76	0.69	29.90	69.62	0.48	0.70	0.85	0.69
WR	5	27	118	1013	2.22	2.26	-0.04	0.84	0.71	37.51	60.71	1.78	0.63	0.81	0.62
WR	6	70	117	1081	2.15	2.16	-0.01	0.76	0.70	32.93	65.31	1.76	0.62	0.81	0.62
WR	7	30	25	1005	2.12	1.88	0.24	0.82	0.67	34.53	64.88	0.60	0.73	0.84	0.68
WR	8	25	22	1350	2.27	2.26	0.01	0.73	0.75	28.89	71.11	0.00	0.74	0.87	0.74
WR	9	95	96	1026	2.15	2.05	0.10	0.80	0.65	28.56	71.35	0.10	0.75	0.86	0.73
WR	10	84	72	1048	2.83	2.72	0.11	0.84	0.75	30.73	68.89	0.38	0.76	0.87	0.75

Table D-7. Rater Severity Study Results (continued)

Content	Grade	2003/4 Item Number	2005 Item Number	Valid N	Mean 2003/4	Mean 2005	Mean Difference	STD 2003/4	STD 2005	% Adjacent	% Precise	% Discrepant	Corr	Intra Class Corr	Weighted Kappa
SPANISH RD	3	8	14	248	1.26	1.20	0.06	0.79	0.80	8.87	91.13	0.00	0.93	0.96	0.93
SPANISH RD	3	26	29	244	0.70	0.61	0.09	0.79	0.73	21.31	77.46	1.23	0.78	0.89	0.77
SPANISH RD	4	28	28	193	2.28	2.21	0.07	1.06	1.12	10.88	88.60	0.52	0.95	0.97	0.95
SPANISH RD	4	37	33	250	0.88	0.79	0.09	0.97	0.89	30.80	62.40	6.80	0.67	0.83	0.67
SPANISH WR	3	16A	31A	294	1.35	1.26	0.09	0.62	0.52	29.93	69.73	0.34	0.55	0.76	0.53
SPANISH WR	3	16B	31B	294	0.71	0.80	-0.09	0.45	0.40	23.47	76.53	0.00	0.38	0.68	0.37
SPANISH WR	3	16C	31C	294	0.74	0.79	-0.05	0.44	0.41	13.61	86.39	0.00	0.63	0.81	0.62
SPANISH WR	3	16D	31D	294	0.94	0.91	0.03	0.23	0.28	6.80	93.20	0.00	0.50	0.74	0.49
SPANISH WR	3	36A	39A	288	1.19	1.16	0.03	0.67	0.57	28.47	71.18	0.35	0.62	0.81	0.61
SPANISH WR	3	36B	39B	288	0.67	0.78	-0.11	0.47	0.41	24.31	75.69	0.00	0.42	0.69	0.40
SPANISH WR	3	36C	39C	288	0.65	0.65	0.00	0.48	0.48	16.32	83.68	0.00	0.64	0.82	0.64
SPANISH WR	3	36D	39D	288	0.90	0.85	0.05	0.31	0.35	13.19	86.81	0.00	0.41	0.70	0.40