



Standard-Setting Technical Report for the California Alternate Assessments

English Language Arts/Literacy and Mathematics

Grades Three Through Eight and Grade Eleven

Contract # 140-2017

**Prepared for the California Department of Education by
Educational Testing Service**

Presented October 18, 2016



Measuring the Power of Learning.™

Table of Contents

Introduction	1
Purpose of the Standard-Setting Workshops	1
Method	2
Bookmark Method	2
Standard-Setting Panels	3
Materials	5
Item Map	6
Ordered Item Booklet	6
Evaluation Forms.....	6
Process	7
Training	7
Test Familiarization	7
Borderline Student Definitions	8
Table Leader Training	8
Review of Ordered Items and Practice in Bookmark Placement	8
Ratings	9
Analysis	9
Feedback and Discussion	9
Results	13
English Language Arts/Literacy Grades Three through Eight and Grade Eleven Results	15
Mathematics Results	21
Evaluation of the Bookmark Process	26
Evaluation Results from the English Language Arts/Literacy and Mathematics Initial and Final Evaluations.....	27
Conclusion	43
References	44
Appendix 1: English Language Arts/Literacy (ELA) Table- and Room-Level Judgments, by Round	45
Appendix 2: Mathematics Table- and Room-Level Judgments, by Round	52
Appendix 3: English Language Arts/Literacy (ELA) Scale Score Distributions for the California Alternate Assessments—Total Group and Subgroups	59
Appendix 4: Mathematics Scale Score Distributions for the California Alternate Assessments—Total Group and Subgroups	78
Appendix 5: Attachments	99
Attachment A: Panelist Invitation to Participate and Pre-Workshop Assignment	99
English Language Arts/Literacy Invitation for Grades Three Through Eight.....	99
English Language Arts/Literacy Note-Taking Form for Grades Three and Four.....	100
Task	101
Attachment B: Final Borderline Student Definitions	104
ELA Grade 3	104
ELA Grade 4	104
ELA Grade 5	105
ELA Grade 6	106
ELA Grade 7	107
ELA Grade 11	108
Mathematics Grade 3	109
Mathematics Grade 4	109
Mathematics Grade 5	110
Mathematics Grade 6	111
Mathematics Grade 7	112
Mathematics Grade 8	113
Mathematics Grade 11	114
Attachment C: Item Maps	116
Attachment D: Evaluation Forms	121
Initial Evaluation	121
Final Evaluation	123
Attachment E: Nondisclosure Agreement Form	125

List of Tables

Acronyms and Initialisms Used in the Standard-Setting Technical Report for the CAAs.....	v
Table 1. Panel Sample	4
Table 2. Teaching Experience by Years Taught.....	5
Table 3. Teaching Experience by Grade Span.....	5
Table 4. Median Threshold Scores at the End of Each Round: ELA Grades Three through Eight and Grade Eleven	15
Table 5. SEJs in Bookmark Placements by Round: ELA.....	16
Table 6. Recommended Scale Score Threshold Scores and CSEM: ELA	17
Table 7. Projected Distribution of 2016 Students Based on Round 3 Recommendations: ELA	18
Table 8. Projected Percentage of 2016 Students at and Above Recommended Threshold Score, +/- 1 CSEM and +/- 2 CSEMs for Total Group: ELA	19
Table 9. Median Threshold Scores at the End of Each Round: Mathematics Grades Three through Eight and Grade Eleven	21
Table 10. SEJs in Bookmark Placements by Round: Mathematics	22
Table 11. Recommended Scale Score Threshold Scores and CSEM: Mathematics.....	23
Table 12. Projected Distribution of 2016 Students Based on Round 3 Recommendations: Mathematics	24
Table 13. Projected Percentage of 2016 Students at and Above Recommended Threshold Score, +/- 1 CSEM and +/- 2 CSEMs for Total Group: Mathematics.....	25
Table 14. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Three–Four.....	28
Table 15. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Three–Four.....	28
Table 16. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four	29
Table 17. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four	29
Table 18. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four.....	29
Table 19. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four.....	29
Table 20. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Five–Six.....	30
Table 21. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Five–Six.....	30
Table 22. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six	31
Table 23. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six	31
Table 24. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six	31
Table 25. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six	31
Table 26. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Seven–Eight	32
Table 27. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Seven–Eight	32
Table 28. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	33
Table 29. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	33
Table 30. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	33
Table 31. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	33
Table 32. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grade Eleven	34
Table 33. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grade Eleven	34
Table 34. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Test Bookmark Placement Questions, Grade Eleven	35
Table 35. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Test Bookmark Placement Questions, Grade Eleven	35
Table 36. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Three–Four	35

Table 37. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Three–Four	36
Table 38. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four.....	36
Table 39. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four.....	36
Table 40. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four.....	36
Table 41. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four.....	37
Table 42. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Five–Six	37
Table 43. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Five–Six	38
Table 44. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six.....	38
Table 45. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six.....	38
Table 46. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six.....	38
Table 47. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six.....	39
Table 48. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Seven–Eight.....	39
Table 49. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Seven–Eight.....	40
Table 50. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	40
Table 51. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	40
Table 52. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	40
Table 53. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight.....	41
Table 54. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grade Eleven.....	41
Table 55. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grade Eleven.....	42
Table 56. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grade Eleven	42
Table 57. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grade Eleven	42
Table 1.1 ELA, Grade Three, Table- and Room-Level Judgments, by Round	45
Table 1.2 ELA, Grade Four, Table- and Room-Level Judgments, by Round	46
Table 1.3 ELA, Grade Five, Table- and Room-Level Judgments, by Round	47
Table 1.4 ELA, Grade Six, Table- and Room-Level Judgments, by Round.....	48
Table 1.5 ELA, Grade Seven, Table- and Room-Level Judgments, by Round.....	49
Table 1.6 ELA, Grade Eight, Table- and Room-Level Judgments, by Round.....	50
Table 1.7 ELA, Grade Eleven, Table- and Room-Level Judgments, by Round.....	51
Table 2.1 Mathematics, Grade Three, Table- and Room-Level Judgments, by Round.....	52
Table 2.2 Mathematics, Grade Four, Table- and Room-Level Judgments, by Round.....	53
Table 2.3 Mathematics, Grade Five, Table- and Room-Level Judgments, by Round.....	54
Table 2.4 Mathematics, Grade Six, Table- and Room-Level Judgments, by Round	55
Table 2.5 Mathematics, Grade Seven, Table- and Room-Level Judgments, by Round	56
Table 2.6 Mathematics, Grade Eight, Table- and Room-Level Judgments, by Round	57
Table 2.7 Mathematics, Grade Eleven, Table- and Room-Level Judgments, by Round	58
Table 3.1 ELA, Grade Three, Percent At and Above Scale Score.....	59
Table 3.2 ELA, Grade Four, Percent At and Above Scale Score.....	62
Table 3.3 ELA, Grade Five, Percent At and Above Scale Score	65
Table 3.4 ELA, Grade Six, Percent At and Above Scale Score	67
Table 3.5 ELA, Grade Seven, Percent at and Above Scale Score	70
Table 3.6 ELA, Grade Eight, Percent At and Above Scale Score.....	73
Table 3.7 ELA, Grade Eleven, Percent At and Above Scale Score.....	76
Table 4.1 Mathematics, Grade Three, Percent At and Above Scale Score	78
Table 4.2 Mathematics, Grade Four, Percent At and Above Scale Score	81

Table 4.3 Mathematics, Grade Five, Percent At and Above Scale Score.....	84
Table 4.4 Mathematics, Grade Six, Percent At and Above Scale Score	87
Table 4.5 Mathematics, Grade Seven, Percent At and Above Scale Score	90
Table 4.6 Mathematics, Grade Eight, Percent At and Above Scale Score	93
Table 4.7 Mathematics, Grade Eleven, Percent At and Above Scale Score	96
Table 5.C.1 ELA, Grade Three, Item Map	116
Table 5.C.2 Mathematics, Grade Three, Item Map.....	118

List of Figures

Figure 1. Standard Setting Participants	4
Figure 2. Borderline Student Definitions	101
Figure 3. 2016 CAA Standard-Setting Initial Evaluation Form—Front.....	121
Figure 4. 2016 CAA Standard-Setting Initial Evaluation Form—Back	122
Figure 5. CAA Standard-Setting Final Evaluation Form—Front.....	123
Figure 6. CAA Standard-Setting Final Evaluation Form—Back.....	124

Acronyms and Initialisms Used in the Standard-Setting Technical Report for the CAAs

CAAs	California Alternate Assessments
CAASPP	California Assessment of Student Performance and Progress
CDE	California Department of Education
CSEM	conditional standard error of measurement
<i>DFA</i>	<i>Directions for Administration</i>
ELA	English language arts/literacy
ETS	Educational Testing Service
IRT	item response theory
OIB	ordered item booklet
PLD	performance level descriptor
SBE	State Board of Education
SD	standard deviation
SEJ	standard error of judgment
SS Scale	Standard Setting Scale

Introduction

The California Assessment of Student Performance and Progress (CAASPP) Alternate Assessments for English language arts/literacy (ELA) and mathematics, called the California Alternate Assessments (CAAs), assess the performance of students with significant cognitive disabilities on California’s content standards for ELA and mathematics in grades three through eight and grade eleven. Each student’s individualized education program (IEP) team determines eligibility for the CAAs.

The CAAs are designed as a computer-based multistage adaptive test. The content is aligned to the Core Content Connectors that are derived from the Common Core State Standards. The test blueprint describes the content to be assessed. With the implementation of the new standards and the administration of the new assessment comes the need for a standard-setting process to evaluate student achievement against the new expectations.

Educational Testing Service (ETS) conducted standard-setting workshops in Sacramento, California, for the grades three through eight and grade eleven ELA and mathematics CAAs on August 16–19 (ELA) and August 22–26, 2016 (mathematics). Standard setting for ELA was conducted in week one and mathematics was conducted in week two. The Bookmark standard-setting method was applied to all items on each test, by grade.

Eight panels of educators participated in the workshop; each panel worked on two tests except for grade eleven ELA and grade eleven mathematics. A standard-setting plan was presented to the California Department of Education (CDE) on April 20, 2016, in preparation for the meetings.

This document provides the following information:

- The purpose of the standard-setting workshops and a discussion of the work conducted prior to the workshop.
- The standard-setting method implemented, a discussion of the Bookmark method, materials used in this approach, the process before and during the workshop, and a description of the panels.
- The results, which include summary data from the bookmark placements and from evaluations by the panelists.

Purpose of the Standard-Setting Workshops

The purpose of the standard-setting process in August 2016 was to collect recommendations for the placement of the CAA threshold scores for review by the CDE, with final determination by the State Board of Education (SBE). For each test, three performance levels were assigned: Level 1—Alternate, Level 2—Alternate, and Level 3—Alternate. To define the three performance levels at each grade, two recommended threshold scores were needed.¹ All scores that do not meet a lower bound for the Level 2—Alternate were assigned to Level 1—Alternate.

¹ The final cut scores were adopted at the September 2016 SBE meeting after a period of public comment.

Method

This section includes descriptions of the Bookmark method of standard setting; the panels; the materials used in the workshop; the process implemented before, during, and after the workshop; and the results from the workshop, which include the bookmark placement, student impact data, and an evaluation of the process based on questionnaires completed by the panelists.

Bookmark Method

The Bookmark method (Lewis, et al., 1996; Mitzel, et al., 2001) is a commonly used item-mapping procedure in which panelists consider content covered by items in a specially constructed book where items are ordered from easiest to hardest, based on operational performance data from the 2015–16 administration. Panelists enter markers indicating their judgment on the placement of threshold scores.

The California Alternate Assessments (CAAs) standard-setting process employed the Bookmark method for grades three through eight and grade eleven for English language arts/literacy (ELA) and mathematics. The workshop resulted in recommendations for threshold scores for the tests.

In the Bookmark method, test items are ordered from easiest to most difficult based on actual student performance; the ordered items are presented in a booklet known as an ordered item booklet (OIB). The task of each panelist is to place a “bookmark” in the OIB that differentiates item content that a student with just enough content knowledge to be performing at a defined performance level would likely know from item content that he or she would not likely know. A “bookmark” is placed in the OIB for each item defined at the border of each performance level. For each CAA test, two bookmarks were required to set three performance levels: Level 1—Alternate, Level 2—Alternate, and Level 3—Alternate.

The Bookmark method has its basis in item response theory (IRT) analysis. IRT is used to estimate item difficulties. These estimates are used to order items by student performance and to place item difficulty estimates on the score scale. One benefit of this approach is that once panelists make judgments in the OIB, the difficulty (theta) values associated with each item have a built-in relationship to scale scores, a fact that allows results to be provided to policy makers in the familiar metric of the scale score.

Prior to making judgments in the OIB, panelists review and discuss the test blueprints and the State Board of Education– (SBE-) approved performance level descriptors (PLDs) for each level, and then develop borderline student definitions as a group. Two borderline student definitions are developed, Level 2 and Level 3. For example, the borderline Level 2 student is the student at the beginning of Level 2; this student differentiates the knowledge and skills of the highest performing Level 1 student from the lowest performing Level 2 student.

To make judgments and place bookmarks in the OIB, panelists review each item in the OIB in sequence and consider if the student at the beginning of Level 2, known as the borderline Level 2 student, would most likely be able to answer the item correctly. A panelist places the Level 2 bookmark on the first item encountered in the OIB that he or she believes the borderline Level 2 student would most likely not be able to address because items beyond that point are too difficult for that borderline student. The panelist continues from that point in the OIB and then stops at the item that the borderline Level 3 student would not likely be able

to address (i.e., the item that likely exceeds the content understanding of the borderline Level 3 student). (In the Bookmark method, the definition of “most likely” is related to the IRT model. That is, panelists are instructed to think of “most likely” as having a two-thirds likelihood of answering a multiple-choice item correctly. In ordering the items in the OIB, a response probability of 0.67 is employed in the IRT model; thus the instructions to the panelists and the analytical model are aligned.²)

The Bookmark process is implemented in three rounds. Each test-specific panel is split up and seated in small groups to facilitate discussion. This table format provides an environment more conducive to panelists sharing their opinions and rationales, as some panelists may be less inclined to speak or have less opportunity to be heard in a large group. The table format also increases the independence of the threshold-score recommendations, because each table of experts provides its own recommendations, which are then aggregated across the tables.

Round One—After a general orientation to the Bookmark method, panelists are administered the test in a format that mimics the experience of the student. This test familiarization allows the panelists to discuss the content demands of the test. Panelists then review and discuss the test blueprints and the SBE-approved PLDs for each level, which provides a basis for the development of borderline student definitions. After receiving training and practice in the Bookmark method, the panelists make independent judgments and place the first round of bookmarks.

Round Two—Panelists are provided with feedback on other panelists’ bookmark judgments (high, low, and median bookmark for the table). Panelists discuss at the table the range of judgments and the rationales behind their judgments, and then panelists independently place their second bookmark judgments on the same test. Panelists are also provided the opportunity to “tweak” the definition of the borderline students to clarify as needed.

Round Three—Panelists again receive feedback on other panelists’ judgments and are shown performance data from an actual test administration to students. More discussion occurs both at the table and room level, after which panelists place their third and final round of bookmarks.

Details regarding the specific process implemented for the CAA standard setting follow.

Standard-Setting Panels

In recruiting panelists, the goal is to include a representative sample of California educators with experience in the education of students who take the CAAs and who are familiar with the Core Content Connectors derived from Common Core State Standards.

Panelists were recruited from across the state to be representative of the educators of CAA-eligible students and were primarily special education teachers. The final selection of panelists invited to the workshops was made by the California Department of Education (CDE).

The total number of panelists who participated was 68; 61 teachers with experience in special education, 43 who had administered the CAAs, and 7 general education teachers

² In several applications of the Bookmark method, a target probability of two-thirds is used to define “most likely.” See, for example, Mitzel, et al. (2001).

participated. They were divided into four ELA and four mathematics panels; each panel was responsible for recommending threshold scores for either one grade (grade eleven) or two grades (grades three and four, grades five and six, or grades seven and eight) for their assigned content area; panelist configurations are shown in Figure 1. Panelists were seated at two tables. Panels were configured to include primarily educators who had been teaching the content area and grade of the panel within the last three years (e.g., grade three ELA teachers were assigned to the ELA grade three and four panel.). The number of teachers in each panel is presented in Table 1.

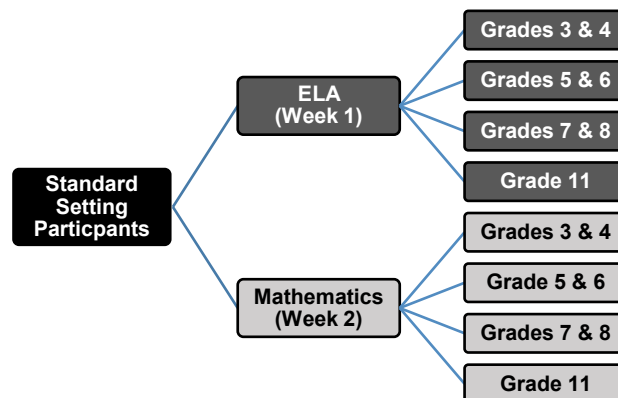


Figure 1. Standard Setting Participants

Soon after the final list of panelists was approved, one table leader for each table was selected at random. The responsibilities of the table leaders were to help keep discussions on track at the table, report interim discussions to the room, and collect materials at the table. Table leader training was conducted by the standard-setting director at the start of the second day of the ELA and mathematics workshops.

Table 1. Panel Sample

Number of Panelists		
Panel	ELA	Mathematics
Grades 3–4	9	8
Grades 5–6	9	8
Grades 7–8	8	7
Grade 11	11	8
Total	37	31

Because standard setting is based on expert judgment—informed by performance data—it is important that panelists collectively reflect the diversity of the educators working with students who take the assessment. Special efforts were made to assemble panels that were representative of the geographic and socioeconomic diversity of California in general and the CAA educator population in particular. The educators who participated in the standard setting included representatives from across regions in California (north, south, and central) and across gender, race, and ethnic categories. A majority of the educators indicated they had more than five years experience teaching special education students. Educators were assigned to panels based on their teaching experience in special education to facilitate the content and grade-specific panel work.

Table 2 presents the teaching experience in each panel and across the standard-setting workshop by the number of years taught.

Table 2. Teaching Experience by Years Taught

Years Experience Teaching Special Education					
ELA Panels					
	Grades 3–4	Grades 5–6	Grades 7–8	Grade 11	Total
Under 5 years	1		3	3	7
6 to 10 years	2	4	2	4	12
11 to 15 years	3	2	1	2	8
16 to 20 years	1	3	1	2	7
20+ years	2		1		3
Mathematics Panels					
	Grades 3–4	Grades 5–6	Grades 7–8	Grade 11	Total
Under 5 years	2	3	2	4	11
6 to 10 years		2	2	2	6
11 to 15 years	5	2	1	1	9
16 to 20 years	1	1	2	1	5
20+ years					0

Table 3 presents the teaching experience in each panel and across the standard-setting workshop by grade span.

Table 3. Teaching Experience by Grade Span

Experience Teaching Special Education by Grade Span					
ELA Panels					
	Grades 3–4	Grades 5–6	Grades 7–8	Grade 11	Total
Kindergarten–grade 5	3		1		4
Grades 6–8		2	2	1	5
Kindergarten–grade 8	5	5	2		12
High school			1	6	7
Kindergarten–grade 12	1	2	2	4	9
Mathematics Panels					
	Grades 3–4	Grades 5–6	Grades 7–8	Grade 11	Total
Kindergarten–grade 5	1	6			7
Grades 6–8		1	2		3
Kindergarten–grade 8	6	1	1		8
High school			1	7	8
Kindergarten–grade 12	1		3	1	5

Materials

Prior to the standard-setting workshop, panel members were provided with a letter describing the purpose and procedures of the standard-setting workshop along with a pre-workshop assignment specific to their panel assignment (see the example of grades three through four ELA in [Attachment A](#) of [Appendix 5](#)), a note-taking form for the assignment (see the example of grades three through four ELA in [Attachment A](#)), a link to the SBE-approved general PLDs (<http://www.cde.ca.gov/be/ag/ag/yr16/documents/jan16item07.doc>), and a link to the CAA

blueprints for the tests the panelists would be reviewing (<http://www.cde.ca.gov/ta/tg/ca/altassessment.asp>). At the standard-setting workshop, panelists received training materials and a set of operational materials. Items were kept secure by assigning panelists an individual identification number and giving them material marked with the same number. Panelists were asked to sign a nondisclosure agreement (see [Attachment E](#) in [Appendix 5](#)), check the material out and in each day, and accept responsibility for controlling all documents labeled with his or her identification number. Educational Testing Service (ETS) staff monitored each room to ensure that materials remained in the rooms and that no room was left unattended when unlocked. The set of operational materials included *Directions for Administration (DFA)* for two versions of the CAAs as administered to the students, the OIB, bookmark recording forms, and an item map. Panelists developed borderline student definitions in the workshop for use in working with the operational test (see [Attachment B](#) in [Appendix 5](#)). The item map and OIB are described more fully below.

Item Map

The item map is a summary document displaying relevant information regarding each item. It shows the ordered item number, the original item number in the test, the correct answer, a difficulty value, and the content strand measured by each item. The item map is ordered by difficulty in the same manner as the OIB. The difficulty metric provided—called the Standard Setting Scale (SS Scale) is a working scale for the panelists to see where items are similar or different compared to adjacent items in the OIB. In the item map for ELA, a reference to the passage topic is included on the item map, linking items and passages. The passage titles are deleted in the sample for security purposes. Items on the CAAs include one-point and two-point items; item scores are indicated on the item map. Two-point items appear twice in the OIB and item map; a score of 1+ represents a score of 1 on a two-point item; a score of 2+ represents a score of 2 on a two-point item. See [Attachment C](#) in [Appendix 5](#) for sample item maps representing what was used for ELA and mathematics.

Ordered Item Booklet

The OIB contains the operational items that were included in the CAAs taken by students in 2015–16, along with all the information about the items that panelists need to complete the bookmark task. For each item, the page of the OIB shows the item, along with any short passage or graphic, the possible responses, and the correct answer. For the ELA tests, a separate passage booklet was included with the OIB for panelists to reference for items associated with a passage.

Evaluation Forms

It is important to collect information from the panelists to document procedural validity (Cizek & Bunch, 2007; Hambleton & Pitoniak, 2006). Panelists received evaluation forms at two points in the process to gauge their understanding and gather other information (see [Attachment D](#) in [Appendix 5](#) for copies of the evaluation forms). Evaluations included questions about training, understanding the tasks, the influence of different aspects of the standard-setting process, and panelists' beliefs about the final recommended threshold scores. Because ETS was interested in knowing as soon as possible if panelists were not satisfied with the level of training they received, the first evaluation form was given to the panelists at the end of the training to gauge their current understanding of the process and their comfort level with the tasks they would be performing. The evaluation forms were

analyzed immediately and responses were reviewed by the panel facilitator and lead facilitator, so that facilitators could review with the panelists any tasks or materials that appeared to be unclear. At the end of this review and discussion, panelists were asked to indicate that they were comfortable with the process and ready to proceed. An overview of the results obtained through the evaluation forms is included in the results section of this report.

Process

This section of the report describes what occurred prior to and during the standard-setting workshop. Prior to the standard setting, a pre-workshop assignment, along with instructions, a note-taking form, and the links to the general PLDs and CAA blueprints, were sent to the panelists. During the workshop, panelists used their notes from the preworkshop assignment and a draft list of competencies to develop borderline student definitions; they had available as reference the California CAA blueprints, California Common Core State Standards, and the Core Content Connectors and Essential Understandings.

Panelists also took the test for which they were setting standards, received training (including practice), and placed bookmarks to indicate threshold scores in an OIB over the course of three rounds of judgment, feedback, and discussion. The process at the workshop was completed for the first test to which they were assigned, ELA grades three, five, seven, and eleven. The process was then repeated for the second test, ELA grades four, six, and eight. At the conclusion of the workshop, the results were shared with the panelists and the CDE.

Training

Panelists were trained in various aspects of the process throughout the course of the workshop; training often was followed immediately by doing the task addressed in the training. On the first day, a general orientation session was held for the entire group where the need for threshold scores was explained. Because this was the first year of administration of the CAAs, panelists were invited to ask questions during the general session, and staff from the CDE and ETS were available throughout the process to answer questions about the test, the policies surrounding the test, and the standard-setting procedures.

Dr. Patricia Baron, ETS Standard-Setting Director, introduced the Bookmark approach for setting threshold scores and presented the agenda and expectations for panel members' participation. Dr. Baron then continued the general session with initial training on the Bookmark method, after which panelists moved into subject/grade-specific groups, where the panel facilitators continued with training and guided the panelists through the rest of the standard-setting activities, as described next.

Test Familiarization

The CAAs are computer-based multistage adaptive tests and are administered to each student individually by a test examiner. Panelists reviewed the test items that the CAA students took for the subject to which they were assigned. An ETS assessment expert facilitated the test administration while projecting the items on the screen in the panel room. Each item was displayed and text from the *DFA* was read to the panelists. Panelists independently wrote the answers to the test questions, with no key provided. Correct answers were read to the panel after a batch of 10–15 items had been presented. No key was provided until the panelists completed the test. The purpose of taking the test was to allow the panelists to familiarize themselves with the content and the difficulty of the items on the

test. ETS and CDE content experts were available to respond to any concerns the panelists had with specific items.

Once the test familiarization was complete, panelists were asked to discuss, at their tables, the demands of the items, what content is measured by the test, and what might be challenging for the CAA students.

Borderline Student Definitions

Panelists reviewed the list of PLDs for their group and then worked in small groups to define borderline student definitions for Level 3—Alternate students. Whole-group consensus of Level 3—Alternate student descriptions was reached and the process was then repeated for the Level 2—Alternate student definitions. The panelists started by describing the skills and knowledge required of a borderline student using their knowledge of what the test is assessing, notes from their preworkshop assignments, their knowledge of the students who were administered the CAAs, their knowledge of the standards, and the PLDs for the CAAs for their assigned grade.

This work was done first at the table level, where panelists listed the major components that defined the borderline Level 2—Alternate students. One panelist at each table wrote down the list as the table discussed the borderline student. The next step was that each table summarized their descriptions and a full-room discussion occurred to reach consensus on definitions for the borderline Level 3—Alternate and Level 2—Alternate students.

It was pointed out to the panelists that the documents provided were for their use during the process; perfect language was not necessary. Rather, the goal was to capture the essence of the skills and knowledge of each borderline student. Each room reached agreement on the descriptions of the borderline students. The descriptions were used by the panels as working definitions in the standard-setting process. The borderline student definitions are provided in [Attachment B](#) in [Appendix 5](#).

Table Leader Training

ETS trained the table leaders in a half-hour session during breakfast on Day 2 of each week. The training began with a description of a table leader's role and responsibilities. The table leaders received instruction on the following tasks:

- Helping to control secure materials
- Notifying the facilitator of any difficulties during discussions
- Leading the review of the OIB
- Collecting and checking all rating forms for completeness and accuracy
- Taking notes and presenting a summary of the Round 1 table discussion
- Sharing feedback data with the panelists at the table

Review of Ordered Items and Practice in Bookmark Placement

The next activity was to independently read the consensus borderline student definitions. Panelists were then instructed to review the OIB in sets of about 10 items, and discuss with others at their table what makes each set of items more difficult than the previous set of items in the OIB. During this review, they were instructed to answer and discuss two questions:

1. What do these items measure?
2. What makes this set more difficult than the previous set of items?

The table leaders facilitated this discussion; panel facilitators monitored each table. The purpose of this exercise was for the panelists to gain a common understanding about the knowledge and skills assessed by these items. This stage is considered essential to placing the first round of bookmarks. At this point, however, panelists were cautioned not to discuss the placement of the bookmark but only to focus on comparisons of the content of the items.

Panelists were then asked to practice placing a bookmark, using the borderline Level 2 student description and placing only the first bookmark. Because this was “practice,” they were told to place a bookmark for the Level 2 threshold score only. Panelists were reminded to place a bookmark on the first item that they thought the borderline student was not likely to answer correctly. (Note: “Not likely” was conceived of in terms of the “two-thirds rule” described previously. See [Bookmark Method](#) section for details.) They were further told to examine their bookmark placements holistically—when they considered the first item they encountered as “too hard” for the borderline student, they should look at the next one or two items to confirm their judgment about where the bookmark should be placed.

The facilitator instructed the panelists to refer to the *DFAs* for instructions given to the student taking the test, which may impact difficulty, and to the item map for statistical data about item difficulty. The item map contains a column called “Standard Setting Scale” which indicates the difference in difficulty across items.

Facilitators were available during the practice task to answer questions. When the panelists were comfortable with the process, they returned their practice material and completed the first evaluation form.

Ratings

Once the facilitator confirmed that all panelists were ready to begin the bookmark task, panelists were asked to review the OIBs independently and place both bookmarks. They were reminded to “place a bookmark on the first item that the borderline student would not be able to answer about two-thirds of the time” for each multiple-choice item, starting with the Level 2 borderline student and moving to the Level 3 borderline student, applying the instructions they received in practice. The panelists completed this bookmark task in three rounds.

Analysis

After completing each bookmark placement, the panelists recorded the item number on which they placed their bookmark for each level. ETS then entered the item numbers into the analysis software tool, which calculated the median bookmark value as well as the highest and lowest recommended bookmark item placement for each level. This analysis was completed for each individual table after Rounds 1 and 2 and for the room as a whole after Rounds 2 and 3. The results of the ratings are presented for ELA and mathematics in grades three through eight and grade eleven in [Appendix 1](#) and [Appendix 2](#). These results include, for all three rounds, high, low, and median bookmark values and standard deviations (SDs) at the table and room levels. The SD is a measure of spread indicating the extent to which the bookmark placements of the panelists varied.

Feedback and Discussion

Feedback was given to the panelists after each round and they were given an opportunity to discuss the feedback in a group setting. After Round 1 judgments were analyzed, ETS facilitators provided feedback to each table on the lowest, highest, and median bookmark

rating at that table. Panelists were then given an opportunity to share with others at the table why they placed their bookmarks where they did. Panelists were also given an opportunity to make a note of any part of the borderline student definitions they would like to discuss. Panels discussed and in some cases modified the definitions prior to the Round 2 judgments (see [Discussion on the CAA Borderline Student Definition Process](#)).

After Round 2 judgments were analyzed, each table leader gave a three- to five-minute presentation on the types of considerations and concerns that were being discussed at his or her table. Panelists were shown the median of the room and the highest and lowest bookmark value in the room, which the whole room discussed.

In addition, impact data for the grade and content area on which the panel was working, based on the scores of students who took the CAAs in 2015–16, were provided to the panelists. ETS facilitators showed the predicted percentage of students who would be categorized into each of the performance levels given the current median bookmarks (threshold scores). The panelists were advised that these numbers were based on the Round 2 recommended threshold scores applied to the student performance on the CAAs, and that they should consider this information when making their Round 3 judgments.

The table leaders were then given table-level feedback consisting of the lowest, highest, and median bookmark information at the table level from their Round 2 bookmark placements. The panelists were then told to discuss at their tables all the information they had heard. Once discussions were concluded and panelists were ready, they independently placed their third and final bookmarks. At the end of the four-day workshop, Round 3 results for the two tests assigned to the panel were presented to the panelists, with instruction that these panelists' recommendations are confidential. (Grade eleven panels were provided Round 3 results when they completed the grade eleven process.) It was reiterated that these results were not official and were pending review by the CDE and adoption by the SBE.

Discussion on the CAA Borderline Student Definition Process

In grades three through eight and eleven for ELA and mathematics, panelists developed borderline student definitions, aligned with the Core Content Connectors and the California Assessment of Student Performance and Progress Alternate Assessments. Starting at the lower grade assigned to the panel, panelists worked toward a common understanding of what a student at the entry point for each level should know and be able to do and developed borderline student definitions. After discussing Round 1 standard-setting judgments, panelists were asked to reconsider and modify the definitions, if the panel found it would be helpful in making the next round of judgments. A general discussion of the changes made between the first and the final submission follows. The final borderline student definitions are included in [Appendix 5, Attachment B](#).

ENGLISH LANGUAGE ARTS/LITERACY GRADES THREE – FOUR PANEL

No changes were made between development of the initial and final borderline student definitions for grade three ELA. For grade four ELA, a change was made to the Level 2 borderline student. Panelists added “media, graphs and charts” as examples of resources that students could use to extract information. No changes were made to the borderline Level 3 student definition.

ENGLISH LANGUAGE ARTS/LITERACY GRADES FIVE – SIX PANEL

From initial to final development of the student definitions, the ELA grade five panel added text to form complete sentences in their definitions. Additionally, they changed the Level 2 borderline student definition from students *must identify at least one related detail* to *students must identify only one related detail*. Panelists also separated out statements into individual definitions rather than combining two or three statements into one. Additionally, they added clarifying language to statements. For example, the statement “Determine details within a literary text (e.g. beginning, middle and end)” became “Determine summary elements within a literary text (two of the three: beginning, middle or end). Only minimal changes were made to grade six text, including moving text to enhance the readability of the sentences.

ENGLISH LANGUAGE ARTS/LITERACY GRADES SEVEN–EIGHT PANEL

For the grade seven ELA borderline Level 2 student description, panelists added one additional piece of information to the first statement and also added two requirements. The final definition now includes “begin to identify a claim” and “begin to add information to a text.” For the borderline Level 3 descriptions, panelists added two additional statements. The statements “begin to make an inference” and “add at least one piece of information supporting the text or purpose” are now included in the definitions. There were no changes between development of the initial and final definitions for grade eight.

ENGLISH LANGUAGE ARTS/LITERACY GRADE ELEVEN PANEL

The panelists in grade eleven ELA made no changes between the development of the initial and final definitions.

MATHEMATICS GRADES THREE–FOUR PANEL

For grade three mathematics, changes to the borderline Level 3 student definitions were made including edits to grammar and inclusion of additional statements in definitions (e.g., “can do multiplication, but not multistep”). For the grade four mathematics borderline Level 2—Alternate student, panelists included additional definitions, added some language for readability purposes, and changed some of the definitions originally provided. One example of a change is in the second statement which now reads, “can solve multiplicative comparisons with an unknown using a one-digit number, including word problems.” Originally the sentence read, “solve multiplicative comparisons with an unknown using one-digit number with visual manipulatives.”

MATHEMATICS GRADES FIVE–SIX PANEL

There were no changes between development of the initial and final definitions for grade five. For grade six mathematics, panelists modified the Level 2 student descriptions from first development to final submission. For example, panelists added some further definition to the second statement. The statement now includes, “only these three: $1/100 = 1\%$, $50/100 = 50\%$, $100/100 = 100\%$.” Examples that clarified statements were also added to the definitions.

MATHEMATICS GRADES SEVEN–EIGHT PANEL

No changes were made to grades seven and eight between initial and final development of the borderline student definitions.

MATHEMATICS GRADE ELEVEN PANEL

Panelists in grade eleven only made one change. For the borderline Level 3 student in grade eleven, panelists included the following definition: “Solve a linear equation to find a missing attribute given the volume.”

Results

Data for grades three through eight and grade eleven English language arts/literacy (ELA) and mathematics are presented in this section. For each test, five tables are included:

1. Median threshold scores, by round
2. Standard errors of judgment (SEJs) by round
3. Recommended scale score thresholds after Round 3, along with the conditional standard errors of measurement (CSEM) associated with the scale scores
4. Projected distribution of 2016 students, shown as the percent, at each level based on the recommended threshold scores
5. Range of scores ± 1 CSEM and ± 2 CSEMs around the recommended threshold scores

Following the five tables are summaries of the evaluations completed by the panelists. Median threshold scores and SEJs are presented in the metric of the ordered item booklet (OIB). The range of bookmark values is from one to the number of possible points in the test, which includes one-point and two-point items. The final recommended threshold score was the median Round 3 threshold score, calculated as the median of the panel. For each test, the median bookmark and the SEJ at each round are displayed in the tables that begin with Table 4.³

The following may help to make evident the meaning of the threshold scores in the bookmark or OIB metric. Item response theory (IRT) allows items (in terms of difficulty) and test takers (in terms of achievement) to be placed on the same scale, thereby allowing an item to represent a location on the ability scale. In the case of the CAAs, partial-credit (two-point) items are presented twice. A partial-credit item will appear first in the location that corresponds to the difficulty for students to achieve one-point out of two possible points, and the item will appear later at a location representing the difficulty for students to achieve two points.

Panel threshold score recommendations are presented to panelists first in the metric of the OIB. For example, in Table 4 on page 15, a panel recommendation of 43.0 means that at Round 3, the panel recommends the threshold score for that performance level (e.g., Level 3—Alternate) should be at the point on the ability scale represented by an item at that location in the OIB. Every item is associated with a theta (ability) scale value obtained through item calibration using the 2015–16 CAA student data file⁴, and items are ordered based on this associated theta value in the OIB. The theta value for each item is defined at a 0.67 probability of answering the item correctly. Thus, the recommended median threshold score in the Bookmark method is a location in the OIB and is equivalent to a value of theta.

³ The SEJ assumes that panelists were selected at random from a population of panelists. In most instances, including the current study, this is not likely to be true. Therefore, the SEJ should be interpreted as an approximation of each cut score's replicability.

⁴ The data are all students who took the CAAs in 2016 and received a valid score. The criterion for a valid score is the student attempted at least four questions in each test part (ELA or mathematics).

Note that, during the workshop when panelists consider relative difficulty of items and when impact data are presented, this feedback is provided on a scale that is more user friendly to the panelists than the theta metric, which is unfamiliar to panelists, and ranges from approximately negative 3.00 to positive 3.00. The theta scale was transformed to an arbitrary scale score unique to each grade, with a range of approximately 100 points, via a linear translation of the RP67 theta scale. All scale score information included in this technical report is based on the working scale—the Standard Setting Scale (SS Scale).

The SEJ is also provided in the bookmark or OIB metric. The SEJ is calculated by multiplying 1.25 by the Round 3 standard error of the mean, which is a research-based estimate of the standard error of the median (see, for example, MacCann & Stanley, 2004) and is one way of estimating the reliability of the judgments. For the CAA results, there were only two table medians in each panel. The SEJ is equivalent to the standard error of the mean. The SEJ is one way of estimating the reliability of the judgments. It indicates how close the threshold score is likely to be to the current score of other panels of educators similar in composition to the current panel and similarly trained in the same standard-setting method. A comparable panel's threshold score would be within one SEJ of the current threshold score 68 percent of the time and within two SEJs 96 percent of the time.⁵

Impact data provided in this report are based on the scores of students who took the CAAs in 2015–16. Impact data are derived using IRT, which provides a scale score equivalent (SS scale) to the theta values associated with the items in the OIB. The threshold score to reach a particular performance level on the test is a score equivalent to the median theta value between the bookmarked item and the item before it in the OIB. Threshold scores for each of the performance levels are determined by this process.

It is important to note that panelists do not determine the actual threshold score. Rather, panelists determine a point on the scale needed to reach a particular performance level based on the location of the items in the OIB on the theta scale. The actual threshold score is a conversion of this point into the scale score metric. Impact data are the percentage of students who have test scores within threshold score bands. That is, if the threshold score to reach Level 2 is 189 and the threshold score to reach Level 3 is 212, the predicted percentage of students who would be categorized as Level 2 is the percentage of students who have scores on the working scale of at least 189 but less than 212.

Note: The tables in this document reflect the process and panel recommendations of the CAAs standard setting participants. After standard setting was complete, the California State Board of Education (SBE) reviewed both the panel recommendations and the State Superintendent of Public Instruction's (SSPI) recommendations. The SBE approved the SSPI's recommendation of the final threshold scores for the CAAs, and a final CAA reporting scale was developed. The scaling process provides a reported scale for Student Score Reports; the scaling process is not part of standard setting and the details are not provided in this report. In the tables that follow, the recommended scale score threshold scores and CSEMs are based on the working scale, or Standard Setting Scale equivalent of the median Round 3 threshold scores, as described previously.

⁵ Probabilities assume normality of the sample; sampling theory suggests that, as the size of the group increases, the distribution gets closer to normal.

English Language Arts/Literacy Grades Three through Eight and Grade Eleven Results

Table 4, below, displays the median bookmark threshold scores for the room after each round for each grade (grades three through eight and grade eleven) in ELA. The median was calculated for each table and for the room. The table shows how panelists moved the bookmarks across rounds. Lower numbers represent bookmark placements earlier in the OIB, indicating a threshold score on a less difficult item which translates to a lower threshold score. Higher numbers translate to a higher threshold score; a higher threshold score means that more is required for a student to be included in the level.

**Table 4. Median Threshold Scores at the End of Each Round:
ELA Grades Three through Eight and Grade Eleven**

ELA			
Grade 3	Round		
	1	2	3
	Level 2—Alternate	20.0	20.0
Level 3—Alternate	43.0	44.0	43.0
Grade 4	Round		
	1	2	3
	Level 2—Alternate	20.0	25.0
Level 3—Alternate	45.0	45.0	44.0
Grade 5	Round		
	1	2	3
	Level 2—Alternate	24.0	25.0
Level 3—Alternate	56.0	61.0	60.0
Grade 6	Round		
	1	2	3
	Level 2—Alternate	28.0	30.0
Level 3—Alternate	59.0	62.0	63.0
Grade 7	Round		
	1	2	3
	Level 2-Alternate	19.5	24.0
Level 3-Alternate	43.5	45.0	39.0
Grade 8	Round		
	1	2	3
	Level 2-Alternate	15.0	22.0
Level 3-Alternate	34.0	55.0	55.0
Grade 11	Round		
	1	2	3
	Level 2-Alternate	17.0	19.0
Level 3-Alternate	38.0	38.0	38.0

The numbers in Table 5 represent the room SEJs after each round, by grade. Lower numbers from Round 1 to Round 3 indicate the convergence of panelists' judgments across tables over rounds. Ideally, the SEJ should decrease across each round; although, occasionally, the introduction of impact data after Round 2 will result in the Round 3 SEJ increasing from Round 2, as panelists have different reactions to the normative data.

It can be useful to look at the results in [Appendix 1](#) along with the results in Table 5 when analyzing the variability in panelists' recommendations. For example, by comparing [Appendix 1](#) Table 1.1 and Table 1.2, which display table-level standard deviations (SDs) for grades three and four ELA, respectively, to the results in Table 5, which provide a measure of variability at the room level, may reveal more detailed information. [Appendix 1](#) Table 1.1 and Table 1.2 show a decreasing trend in variability for the panel working on grades three and four ELA. The table variation decreased from Round 1 to Round 3 for table 2, for both threshold scores for both grades. However, for table 1 in the same panel, the table variation increased overall for threshold scores for grade three, Levels 2 and 3 and grade four, Level 3. Compared to the data in Table 5, which suggests an increase in the SEJs across all panelists for both levels in grade three, and Level 3 in grade four, the tables in [Appendix 1](#) suggest that the variability can be attributed mostly to the lack of agreement in table 1.

Table 5. SEJs in Bookmark Placements by Round: ELA

ELA			
Grade 3	Round		
	1	2	3
Level 2—Alternate	3.2	2.2	3.5
Level 3—Alternate	2.9	2.6	3.6
Grade 4	Round		
	1	2	3
Level 2—Alternate	2.7	1.7	2.1
Level 3—Alternate	1.6	2.4	2.8
Grade 5	Round		
	1	2	3
Level 2—Alternate	3.9	1.5	1.5
Level 3—Alternate	4.5	2.2	1.6
Grade 6	Round		
	1	2	3
Level 2—Alternate	1.8	1.4	1.3
Level 3—Alternate	2.6	2.0	1.3
Grade 7	Round		
	1	2	3
Level 2—Alternate	2.8	2.0	2.2
Level 3—Alternate	4.1	4.2	4.2

ELA			
Grade 8	Round		
	1	2	3
Level 2—Alternate	2.6	1.8	3.9
Level 3—Alternate	5.6	3.2	2.2
Grade 11	Round		
	1	2	3
Level 2—Alternate	1.2	2.0	1.8
Level 3—Alternate	3.7	4.6	2.7

Table 6 presents the threshold score recommendations converted to rounded scale scores and the CSEM at each recommended threshold score for ELA by grade. The CSEM is a way to take into consideration the reliability of test scores. More specifically, this statistic is an indication of the degree of uncertainty at each scale score and is sometimes used as guidance when evaluating the appropriateness of threshold scores.

Table 6. Recommended Scale Score Threshold Scores and CSEM: ELA

ELA		
Grade 3	Scale Score	CSEM
Level 2—Alternate	189	6
Level 3—Alternate	212	7
Grade 4	Scale Score	CSEM
Level 2—Alternate	207	6
Level 3—Alternate	222	7
Grade 5	Scale Score	CSEM
Level 2—Alternate	206	6
Level 3—Alternate	235	8
Grade 6	Scale Score	CSEM
Level 2—Alternate	209	6
Level 3—Alternate	246	8
Grade 7	Scale Score	CSEM
Level 2—Alternate	206	6
Level 3—Alternate	221	7
Grade 8	Scale Score	CSEM
Level 2—Alternate	186	6
Level 3—Alternate	231	7
Grade 11	Scale Score	CSEM
Level 2—Alternate	188	6
Level 3—Alternate	214	6

Table 7, on the next page, shows the projected percentage of students scoring at each level, based on the results of the 2015–16 student performance and the Round 3 median threshold scores provided in Table 4.

Table 7. Projected Distribution of 2016 Students Based on Round 3 Recommendations: ELA

ELA		
	Performance Level	Percentage
Grade 3	Level 1—Alternate	46.1
	Level 2—Alternate	27.6
	Level 3—Alternate	26.3
Grade 4	Level 1—Alternate	71.1
	Level 2—Alternate	14.5
	Level 3—Alternate	14.4
Grade 5	Level 1—Alternate	67.2
	Level 2—Alternate	30.0
	Level 3—Alternate	2.8
Grade 6	Level 1—Alternate	71.6
	Level 2—Alternate	27.2
	Level 3—Alternate	1.2
Grade 7	Level 1—Alternate	69.2
	Level 2—Alternate	19.7
	Level 3—Alternate	11.1
Grade 8	Level 1—Alternate	34.0
	Level 2—Alternate	61.0
	Level 3—Alternate	5.0
Grade 11	Level 1—Alternate	34.2
	Level 2—Alternate	47.3
	Level 3—Alternate	18.5

Percentages may not sum to 100 percent because of rounding.

Table 8 displays the scale scores located one and two conditional standard errors above and below the recommended threshold scores for each level for each grade (grades three through eight and grade eleven) for ELA. Every test has error of measurement, and the CSEM is the error surrounding one particular score (in this case, the standard error at the recommended threshold score reported in Table 6). The tables present the projected

percentages for the total group. Projected percentages for subgroups (such as gender and program participation) can be found in [Appendix 3](#).

In standard setting, policymakers sometimes wish to reduce the number of examinees who fall below the panel-recommended threshold scores due to random error. In addition to measurement error metrics (e.g., SEM, SEJ), policymakers should consider the likelihood of classification error; that is, when adjusting a threshold score, policymakers should consider whether it is more important to minimize a false positive decision or to minimize a false negative decision.

A false positive decision occurs when a test taker's score suggests one level of knowledge and skills, but the person's actual level is lower (i.e., the person does not possess the required skills). A false negative occurs when a test taker's score suggests that he or she does not possess the required skills, but that person nevertheless actually does possess those skills.

In order to reduce the number of false negatives, policymakers will decide to lower the threshold score(s). On the other hand, they may desire to reduce the number of examinees who attain a score above the recommended threshold score because of random error at each level in order to reduce the number of false positives and thus raise the threshold score(s).

Raising threshold scores reduces false positives but increases false negatives; the reverse occurs when threshold scores are lowered. Policymakers need to consider which decision error to minimize; it is not possible to eliminate both types of decision errors simultaneously.

Table 8. Projected Percentage of 2016 Students at and Above Recommended Threshold Score, +/- 1 CSEM and +/- 2 CSEMs for Total Group: ELA

ELA Grade 3					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	177	65.5	-2 CSEM	198	42.4
-1 CSEM	183	60.2	-1 CSEM	205	34.3
Panel Recommended	189	53.9	Panel Recommended	212	26.3
+1 CSEM	195	45.7	+1 CSEM	219	21.0
+2 CSEM	201	38.9	+2 CSEM	226	15.7
ELA Grade 4					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	195	47.4	-2 CSEM	208	27.1
-1 CSEM	201	39.4	-1 CSEM	215	19.8
Panel Recommended	207	28.9	Panel Recommended	222	14.4
+1 CSEM	213	22.2	+1 CSEM	229	7.9
+2 CSEM	219	15.6	+2 CSEM	236	5.0

ELA Grade 5					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	194	52.3	-2 CSEM	219	14.6
-1 CSEM	200	43.0	-1 CSEM	227	6.9
Panel Recommended	206	32.8	Panel Recommended	235	2.8
+1 CSEM	212	23.1	+1 CSEM	243	1.8
+2 CSEM	218	14.9	+2 CSEM	251	1.0

ELA Grade 6					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	197	47.2	-2 CSEM	230	6.8
-1 CSEM	203	36.4	-1 CSEM	238	3.1
Panel Recommended	209	28.4	Panel Recommended	246	1.2
+1 CSEM	215	20.6	+1 CSEM	254	0.8
+2 CSEM	221	13.8	+2 CSEM	262	0.3

ELA Grade 7					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	194	50.6	-2 CSEM	207	30.8
-1 CSEM	200	40.6	-1 CSEM	214	20.3
Panel Recommended	206	30.8	Panel Recommended	221	11.1
+1 CSEM	212	22.1	+1 CSEM	228	6.3
+2 CSEM	218	14.7	+2 CSEM	235	3.1

ELA Grade 8					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	174	72.9	-2 CSEM	217	16.1
-1 CSEM	180	70.3	-1 CSEM	224	8.9
Panel Recommended	186	66.0	Panel Recommended	231	5.0
+1 CSEM	192	56.9	+1 CSEM	238	2.6
+2 CSEM	198	45.9	+2 CSEM	245	1.2

ELA Grade 11					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	176	74.2	-2 CSEM	202	40.1
-1 CSEM	182	71.6	-1 CSEM	208	28.2
Panel Recommended	188	65.8	Panel Recommended	214	18.5
+1 CSEM	194	56.6	+1 CSEM	220	12.0
+2 CSEM	200	45.8	+2 CSEM	226	7.1

Mathematics Results

Table 9 displays the average of two table medians for the room after each round for Algebra I and Geometry. The table shows how panelists moved the bookmarks across rounds. Data interpretations should be made in a similar fashion to Table 4.

Table 9. Median Threshold Scores at the End of Each Round: Mathematics Grades Three through Eight and Grade Eleven

Mathematics			
Grade 3	Round		
	1	2	3
Level 2—Alternate	14.5	22.0	22.0
Level 3—Alternate	36.5	30.0	30.0
Grade 4	Round		
	1	2	3
Level 2—Alternate	11.0	17.5	19.0
Level 3—Alternate	38.0	38.0	38.0
Grade 5	Round		
	1	2	3
Level 2—Alternate	16.5	18.0	18.0
Level 3—Alternate	42.0	46.5	47.0
Grade 6	Round		
	1	2	3
Level 2—Alternate	12.5	13.0	15.5
Level 3—Alternate	32.5	34.5	32.0
Grade 7	Round		
	1	2	3
Level 2—Alternate	21.0	21.0	21.0
Level 3—Alternate	40.0	42.0	42.0

Mathematics			
Grade 8	Round		
	1	2	3
Level 2—Alternate	19.0	21.0	21.0
Level 3—Alternate	33.5	40.0	41.0
Grade 11	Round		
	1	2	3
Level 2—Alternate	22.5	25.0	24.5
Level 3—Alternate	35.5	40.5	38.5

The numbers in Table 10 represent the room SEJs across tables for each round. Data interpretations should be made in a similar fashion to Table 5. The results seen in Table 10 can be compared to the results in [Appendix 2](#) when analyzing the variability in panelists' recommendations. [Appendix 2](#) displays SDs at the table level for each panel.

Table 10. SEJs in Bookmark Placements by Round: Mathematics

Mathematics			
Grade 3	Round		
	1	2	3
Level 2—Alternate	2.3	2.0	0.0
Level 3—Alternate	6.3	3.6	0.3
Grade 4	Round		
	1	2	3
Level 2—Alternate	3.8	3.1	2.7
Level 3—Alternate	3.9	1.7	2.2
Grade 5	Round		
	1	2	3
Level 2—Alternate	1.4	1.8	2.2
Level 3—Alternate	4.5	4.7	4.5
Grade 6	Round		
	1	2	3
Level 2—Alternate	1.0	0.9	0.8
Level 3—Alternate	4.5	3.7	2.3
Grade 7	Round		
	1	2	3
Level 2—Alternate	1.7	0.4	0.0
Level 3—Alternate	5.6	3.0	3.0
Grade 8	Round		
	1	2	3
Level 2—Alternate	4.1	1.3	0.0
Level 3—Alternate	5.3	2.6	5.9

Mathematics			
Grade 11	Round		
	1	2	3
Level 2—Alternate	3.7	2.2	2.7
Level 3—Alternate	3.1	3.0	3.4

Table 11 presents the threshold score recommendations converted to rounded scale scores and the CSEM at each recommended threshold score.

Table 11. Recommended Scale Score Threshold Scores and CSEM: Mathematics

Mathematics		
Grade 3	Scale Score	CSEM
Level 2—Alternate	211	6
Level 3—Alternate	219	6
Grade 4	Scale Score	CSEM
Level 2—Alternate	212	6
Level 3—Alternate	225	6
Grade 5	Scale Score	CSEM
Level 2—Alternate	206	6
Level 3—Alternate	227	6
Grade 6	Scale Score	CSEM
Level 2—Alternate	211	5
Level 3—Alternate	219	5
Grade 7	Scale Score	CSEM
Level 2—Alternate	207	6
Level 3—Alternate	220	6
Grade 8	Scale Score	CSEM
Level 2—Alternate	211	6
Level 3—Alternate	226	6
Grade 11	Scale Score	CSEM
Level 2—Alternate	211	6
Level 3—Alternate	223	6

Table 12, on the next page, shows the projected percentage of students scoring at each level, based on the results of the 2015–16 student performance and the Round 3 median threshold scores given in Table 9.

**Table 12. Projected Distribution of 2016 Students Based on Round 3 Recommendations:
Mathematics**

Mathematics		
	Performance Level	Percentage
Grade 3	Level 1—Alternate	81.6
	Level 2—Alternate	9.7
	Level 3—Alternate	8.7
Grade 4	Level 1—Alternate	84.2
	Level 2—Alternate	11.5
	Level 3—Alternate	4.3
Grade 5	Level 1—Alternate	72.8
	Level 2—Alternate	23.6
	Level 3—Alternate	3.6
Grade 6	Level 1—Alternate	84.5
	Level 2—Alternate	7.9
	Level 3—Alternate	7.6
Grade 7	Level 1—Alternate	74.6
	Level 2—Alternate	17.1
	Level 3—Alternate	8.3
Grade 8	Level 1—Alternate	83.2
	Level 2—Alternate	13.0
	Level 3—Alternate	3.8
Grade 11	Level 1—Alternate	81.0
	Level 2—Alternate	12.8
	Level 3—Alternate	6.2

Table 13 displays the scale scores located one and two conditional standard errors above and below the recommended threshold scores for each level for mathematics grades three through eight and grade eleven. The CSEM is the error surrounding the recommended threshold score reported in Table 11. The tables present the projected percentages for the total group. Projected percentages for subgroups (such as gender and program participation) can be found in [Appendix 4](#).

Table 13. Projected Percentage of 2016 Students at and Above Recommended Threshold Score, +/- 1 CSEM and +/- 2 CSEMs for Total Group: Mathematics

Mathematics Grade 3					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	199	40.7	-2 CSEM	207	24.7
-1 CSEM	205	27.7	-1 CSEM	213	14.5
Panel Recommended	211	18.4	Panel Recommended	219	8.7
+1 CSEM	217	9.9	+1 CSEM	225	4.6
+2 CSEM	223	5.2	+2 CSEM	231	2.6
Mathematics Grade 4					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	200	42.2	-2 CSEM	213	14.1
-1 CSEM	206	27.4	-1 CSEM	219	7.8
Panel Recommended	212	15.8	Panel Recommended	225	4.3
+1 CSEM	218	8.6	+1 CSEM	231	2.3
+2 CSEM	224	4.7	+2 CSEM	237	1.3
Mathematics Grade 5					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	194	54.9	-2 CSEM	215	11.3
-1 CSEM	200	41.0	-1 CSEM	221	6.1
Panel Recommended	206	27.2	Panel Recommended	227	3.6
+1 CSEM	212	15.0	+1 CSEM	233	2.2
+2 CSEM	218	8.0	+2 CSEM	239	1.4
Mathematics Grade 6					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	201	38.3	-2 CSEM	209	19.1
-1 CSEM	206	25.2	-1 CSEM	214	12.8
Panel Recommended	211	15.5	Panel Recommended	219	7.6
+1 CSEM	216	10.6	+1 CSEM	224	4.9
+2 CSEM	221	6.5	+2 CSEM	229	3.2

Mathematics Grade 7					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	195	50.8	-2 CSEM	208	23.6
-1 CSEM	201	38.6	-1 CSEM	214	14.7
Panel Recommended	207	25.4	Panel Recommended	220	8.3
+1 CSEM	213	15.1	+1 CSEM	226	5.2
+2 CSEM	219	9.2	+2 CSEM	232	3.6

Mathematics Grade 8					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	199	41.9	-2 CSEM	214	13.7
-1 CSEM	205	28.9	-1 CSEM	220	7.9
Panel Recommended	211	16.8	Panel Recommended	226	3.8
+1 CSEM	217	11.0	+1 CSEM	232	2.0
+2 CSEM	223	5.3	+2 CSEM	238	1.1

Mathematics Grade 11					
Level 2—Alternate			Level 3—Alternate		
Threshold Scores	Scale Score	Percent at and above	Threshold Scores	Scale Score	Percent at and above
-2 CSEM	199	46.3	-2 CSEM	211	19.0
-1 CSEM	205	31.6	-1 CSEM	217	11.7
Panel Recommended	211	19.0	Panel Recommended	223	6.2
+1 CSEM	217	11.7	+1 CSEM	229	4.2
+2 CSEM	223	6.2	+2 CSEM	235	2.6

Evaluation of the Bookmark Process

Panelists were asked at two points over the course of the workshop to rate (a) their understanding of the process, (b) the usefulness of different training exercises, and (c) the influence of various factors on their bookmark placements. Panelists' ratings were collected using evaluation forms. The purpose of the first evaluation form, completed prior to placement of bookmarks, was to provide an early check on the level of panelists' understanding and to identify any areas of confusion. Assessing the level of clarity prior to beginning the bookmark process is essential to validating the overall standard-setting process. The final evaluation form contained additional questions used to analyze the whole process, including training, placing bookmarks, impact data, and panel discussions.

Results from the evaluation forms are panel-based and are specific to each panel. There was no cross-panel discussion during the process of the standard-setting workshop; therefore, any comparisons across panels should acknowledge the independence of the panels.

Evaluation Results from the English Language Arts/Literacy and Mathematics Initial and Final Evaluations

There were no panelists in any of the ELA panels who indicated on their initial evaluation that additional training or review was needed. In the grades three through four mathematics panel, one panelist indicated that she did not understand how she would consider the information presented in the impact data in her judgments. Further training was provided to the panelist before proceeding, and she indicated that she understood.

Table 14 through Table 57 provide the results of initial and final evaluations for ELA and mathematics. The results show panelists' training and understanding of the bookmark process as well as their confidence in final judgments and their stated belief as to the appropriateness of the bookmark placements.

In the final evaluation, panelists indicated having a clear understanding of the process of the Bookmark method. All panelists indicated they were *somewhat confident* or *very confident* in their judgments; no panelists indicated they were *not at all confident*. When asked if they believed that the bookmark placements are appropriate, the results were varied. Each panel, except the grade eleven panels, responded to the appropriateness of four threshold scores and two bookmark placements (i.e., Level 2 and Level 3) for each of two grades.

For ELA grades three, four, five, and six, between 78 percent and 100 percent of the panelists indicated the threshold score was *about right*. In ELA grade seven, 38 percent of panelists ($n = 3$) indicated the Level 2 bookmark placement was *too high*, and 25 percent ($n = 2$) indicated the Level 3 bookmark was *too high*. Similarly for grade eight, two panelists indicated that the Level 2 bookmark was *too high*, and three panelists indicated that the Level 3 bookmark placement was *too high*. In grade eleven ELA, 82 percent of the panelists said the Level 2 bookmark placement was *about right*, and 73 percent said the Level 3 placement was *about right*. Two panelists (18 percent) indicated that threshold scores for both levels were *too high* and one panelist indicated that the Level 3 threshold score was *too low*.

For mathematics grades three, four, five, and seven, between 75 percent and 100 percent of the panelists indicated the threshold score was *about right*. On the grade six evaluations, only 38 percent of panelists indicated that the Level 3 bookmark placement was *about right*. Three panelists (38 percent) indicated that both the Level 2 and Level 3 bookmark placements were *too high* for grade six; and two additional panelists indicated that the Level 3 bookmark placement was *too low*. In grade eight mathematics, all responses for the Level 2 bookmark placement indicated *about right*; however for the Level 3 threshold score, 43 percent of the panelists indicated *about right*. The remaining panelists were split, with one panelist indicating *too low* and two indicating *too high*. For mathematics grade eleven Level 2 bookmark placement, 63 percent indicated *about right* and 37 percent ($n = 3$) indicated *too high*; for the Level 3 threshold score, 50 percent ($n = 4$) indicated *about right*, 13 percent ($n = 1$) indicated *too low*, and 37 percent ($n = 3$) indicated *too high*.

Table 14. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Three–Four

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	1	11	8	89
The large-group facilitator explained things clearly.	0	0	0	0	3	33	6	67
The panel facilitator explained things clearly.	0	0	0	0	5	56	4	44
I understand what is meant by the borderline student.	0	0	0	0	2	22	7	78
I understand the purpose of the PLDs in this process.	0	0	0	0	4	44	5	56
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	3	33	6	67
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	4	44	5	56
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	1	11	5	56	3	33
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	4	44	5	56
I am ready to make my first bookmark judgment.	0	0	0	0	3	33	6	67

Table 15. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Three–Four

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	0	0	9	100
Borderline student definitions	0	0	0	0	9	100
My perception of the difficulty of the items	0	0	3	33	6	67
Table discussions	1	11	3	33	5	56
Room-level discussions	0	0	6	67	3	33
Bookmark placements of other panelists	1	11	8	89	0	0
Impact information (% of students in each performance level)	1	11	4	44	4	44
My sense of what students need to know at each performance level	1	11	3	33	5	56

Table 16. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	1	11	8	89
Level 3 bookmark placement	0	0	0	0	9	100

Table 17. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	9	100	0	0
Level 3 bookmark placement	0	0	9	100	0	0

Table 18. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	2	22	7	78
Level 3 bookmark placement	0	0	0	0	9	100

Table 19. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	7	78	2	22
Level 3 bookmark placement	0	0	8	89	1	11

Table 20. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Five–Six

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	0	0	9	100
The large-group facilitator explained things clearly.	0	0	0	0	0	0	9	100
The panel facilitator explained things clearly.	0	0	0	0	0	0	9	100
I understand what is meant by the borderline student.	0	0	0	0	0	0	9	100
I understand the purpose of the PLDs in this process.	0	0	0	0	1	11	8	89
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	0	0	9	100
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	1	11	8	89
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	1	11	8	89
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	0	0	9	100
I am ready to make my first bookmark judgment.	0	0	0	0	0	0	9	100

Table 21. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Five–Six

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	1	11	8	89
Borderline student definitions	0	0	1	11	8	89
My perception of the difficulty of the items	0	0	5	56	4	44
Table discussions	0	0	0	0	9	100
Room-level discussions	0	0	0	0	9	100
Bookmark placements of other panelists	3	33	5	56	1	11
Impact information (% of students in each performance level)	5	56	3	33	1	11
My sense of what students need to know at each performance level	0	0	5	56	4	44

Table 22. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	9	100
Level 3 bookmark placement	0	0	0	0	9	100

Table 23. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	8	89	1	11
Level 3 bookmark placement	0	0	8	89	1	11

Table 24. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	9	100
Level 3 bookmark placement	0	0	0	0	9	100

Table 25. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	8	89	1	11
Level 3 bookmark placement	1	11	7	78	1	11

Table 26. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Seven–Eight

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	3	38	5	63
The large-group facilitator explained things clearly.	0	0	0	0	3	38	5	63
The panel facilitator explained things clearly.	0	0	0	0	2	25	6	75
I understand what is meant by the borderline student.	0	0	0	0	2	25	6	75
I understand the purpose of the PLDs in this process.	0	0	0	0	2	25	6	75
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	1	13	7	88
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	2	25	6	75
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	5	63	3	38
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	3	38	5	63
I am ready to make my first bookmark judgment.	0	0	0	0	5	63	3	38

Table 27. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Seven–Eight

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	0	0	8	100
Borderline student definitions	0	0	0	0	8	100
My perception of the difficulty of the items	0	0	4	50	4	50
Table discussions	0	0	2	25	6	75
Room-level discussions	0	0	1	13	7	88
Bookmark placements of other panelists	1	13	5	63	2	25
Impact information (% of students in each performance level)	3	38	5	63	0	0
My sense of what students need to know at each performance level	1	13	2	25	5	63

Table 28. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	1	13	7	88
Level 3 bookmark placement	0	0	1	13	7	88

Table 29. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	5	63	3	38
Level 3 bookmark placement	0	0	6	75	2	25

Table 30. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	8	100
Level 3 bookmark placement	0	0	0	0	8	100

Table 31. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	6	75	2	25
Level 3 bookmark placement	0	0	5	63	3	38

Table 32. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grade Eleven

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	4	36	7	64
The large-group facilitator explained things clearly.	0	0	0	0	5	45	6	55
The panel facilitator explained things clearly.	0	0	0	0	4	36	7	64
I understand what is meant by the borderline student.	0	0	0	0	4	36	7	64
I understand the purpose of the PLDs in this process.	0	0	0	0	6	55	5	45
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	2	18	9	82
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	4	36	7	64
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	5	45	6	55
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	5	45	6	55
I am ready to make my first bookmark judgment.	0	0	0	0	5	45	6	55

Table 33. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grade Eleven

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	3	27	8	73
Borderline student definitions	0	0	1	9	10	91
My perception of the difficulty of the items ⁶	2	18	2	18	6	55
Table discussions	2	18	0	0	9	82
Room-level discussions	2	18	5	45	4	36
Bookmark placements of other panelists	3	27	4	36	4	36
Impact information (% of students in each performance level)	1	9	7	64	3	27
My sense of what students need to know at each performance level	2	18	3	27	6	55

⁶ One panelist double marked their response, therefore, their rating was not included.

Table 34. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Test Bookmark Placement Questions, Grade Eleven

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	3	27	8	73
Level 3 bookmark placement	0	0	2	18	9	82

Table 35. Number and Percent of ELA Panelists Indicating Each Possible Response Option to Final Evaluation Test Bookmark Placement Questions, Grade Eleven

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	9	82	2	18
Level 3 bookmark placement	1	9	8	73	2	18

Table 36. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Three–Four

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	5	63	3	38
The large-group facilitator explained things clearly.	0	0	0	0	3	38	5	63
The panel facilitator explained things clearly.	0	0	0	0	1	13	7	88
I understand what is meant by the borderline student.	0	0	0	0	1	13	7	88
I understand the purpose of the PLDs in this process.	0	0	0	0	3	38	5	63
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	1	13	7	88
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	2	25	6	75
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	7	88	1	13
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	4	50	4	50
I am ready to make my first bookmark judgment.	0	0	0	0	3	38	5	63

Table 37. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Three–Four

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	0	0	8	100
Borderline student definitions	0	0	0	0	8	100
My perception of the difficulty of the items	0	0	5	63	3	38
Table discussions	0	0	1	13	7	88
Room-level discussions	0	0	2	25	6	75
Bookmark placements of other panelists ⁷	0	0	5	63	2	25
Impact information (% of students in each performance level)	3	38	5	63	0	0
My sense of what students need to know at each performance level	0	0	5	63	3	38

Table 38. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	8	100
Level 3 bookmark placement	0	0	0	0	8	100

Table 39. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Three–Four

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	8	100	0	0
Level 3 bookmark placement	0	0	7	88	1	13

Table 40. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	8	100
Level 3 bookmark placement	0	0	0	0	8	100

⁷ One panelist did not respond to this question.

Table 41. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Three–Four

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	7	88	1	13
Level 3 bookmark placement	0	0	6	75	2	25

Table 42. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Five–Six

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	3	38	5	63
The large-group facilitator explained things clearly.	0	0	0	0	5	63	3	38
The panel facilitator explained things clearly.	0	0	0	0	1	13	7	88
I understand what is meant by the borderline student.	0	0	0	0	0	0	8	100
I understand the purpose of the PLDs in this process.	0	0	0	0	1	13	7	88
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	1	13	7	88
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	1	13	7	88
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	1	13	7	88
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	1	13	7	88
I am ready to make my first bookmark judgment.	0	0	0	0	3	38	5	63

Table 43. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Five–Six

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	1	13	7	88
Borderline student definitions	0	0	0	0	8	100
My perception of the difficulty of the items	0	0	5	63	3	38
Table discussions	0	0	4	50	4	50
Room-level discussions	0	0	5	63	3	38
Bookmark placements of other panelists	5	63	3	38	0	0
Impact information (% of students in each performance level)	3	38	5	63	0	0
My sense of what students need to know at each performance level	0	0	2	25	6	75

Table 44. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	1	13	1	13	6	75
Level 3 bookmark placement	1	13	1	13	6	75

Table 45. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Five–Six

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	8	100	0	0
Level 3 bookmark placement	0	0	8	100	0	0

Table 46. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	1	13	5	63	2	25
Level 3 bookmark placement	1	13	5	63	2	25

Table 47. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Five–Six

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	5	63	3	38
Level 3 bookmark placement	2	5	3	38	3	38

Table 48. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grades Seven–Eight

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	1	14	6	86
The large-group facilitator explained things clearly.	0	0	0	0	1	14	6	86
The panel facilitator explained things clearly.	0	0	0	0	1	14	6	86
I understand what is meant by the borderline student.	0	0	0	0	1	14	6	86
I understand the purpose of the PLDs in this process.	0	0	0	0	1	14	6	86
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	1	14	6	86
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	1	14	6	86
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	1	14	6	86
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	1	14	6	86
I am ready to make my first bookmark judgment.	0	0	0	0	1	14	6	86

Table 49. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grades Seven–Eight

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	0	0	7	100
Borderline student definitions	0	0	0	0	7	100
My perception of the difficulty of the items	1	14	2	29	4	57
Table discussions	0	0	2	29	5	71
Room-level discussions	0	0	4	57	3	43
Bookmark placements of other panelists	1	14	5	71	1	14
Impact information (% of students in each performance level)	2	29	5	71	0	0
My sense of what students need to know at each performance level	1	14	2	29	4	57

Table 50. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	7	100
Level 3 bookmark placement	0	0	0	0	7	100

Table 51. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Lower Grade Test Bookmark Placement Questions, Grades Seven–Eight

Do you believe that the final recommended bookmark placements are appropriate?	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	7	100	0	0
Level 3 bookmark placement	1	14	6	86	0	0

Table 52. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight

How confident are you in your final judgments? *	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	0	0	6	86
Level 3 bookmark placement	0	0	2	29	4	57

*One panelist did not respond to this section.

Table 53. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grades Seven–Eight

Do you believe that the final recommended bookmark placements are appropriate? *	Too Low		About Right		Too High	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
	Level 2 bookmark placement	0	0	6	86	0
Level 3 bookmark placement	1	14	3	43	2	29

*One panelist did not respond to this section.

Table 54. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Initial Evaluation Questions, Grade Eleven

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I understand the purpose of this workshop.	0	0	0	0	1	13	7	88
The large-group facilitator explained things clearly.	0	0	0	0	2	25	6	75
The panel facilitator explained things clearly.	0	0	0	0	1	13	7	88
I understand what is meant by the borderline student.	0	0	0	0	0	0	8	100
I understand the purpose of the PLDs in this process.	0	0	0	0	2	25	6	75
I understand what the Ordered Item Booklet (OIB) is.	0	0	0	0	0	0	8	100
I understand the information presented in the item map (e.g., relative item difficulty).	0	0	0	0	3	38	5	63
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	0	0	0	0	2	25	6	75
The training in the method seems adequate to give me the information I need to complete my assignment.	0	0	0	0	1	13	7	88
I am ready to make my first bookmark judgment.	0	0	0	0	2	25	6	75

Table 55. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Questions, Grade Eleven

How influential was each of the following in placing your bookmark?	Not at All Influential		Somewhat Influential		Very Influential	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The Performance Level Descriptors	0	0	4	50	4	50
Borderline student definitions	0	0	0	0	8	100
My perception of the difficulty of the items	0	0	6	75	2	25
Table discussions	0	0	5	63	3	38
Room-level discussions	0	0	3	38	5	63
Bookmark placements of other panelists	1	13	7	88	0	0
Impact information (% of students in each performance level)	2	25	5	63	1	13
My sense of what students need to know at each performance level	1	13	3	38	4	50

Table 56. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grade Eleven

How confident are you in your final judgments?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	2	25	6	75
Level 3 bookmark placement	0	0	2	25	6	75

Table 57. Number and Percent of Mathematics Panelists Indicating Each Possible Response Option to Final Evaluation Higher Grade Test Bookmark Placement Questions, Grade Eleven

Do you believe that the final recommended bookmark placements are appropriate?	Not at All Confident		Somewhat Confident		Very Confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Level 2 bookmark placement	0	0	5	63	3	38
Level 3 bookmark placement	1	13	4	50	3	38

Conclusion

At the request of the California Department of Education (CDE), Educational Testing Service conducted standard-setting workshops for the California Alternate Assessments in grades three through eight and grade eleven for English language arts/literacy (ELA) and mathematics in Sacramento, California, August 16–25, 2016. The standard-setting method used was the Bookmark method, an item-mapping procedure that allows multiple threshold scores to be set in an efficient manner. The process was implemented as planned: three rounds of judgments, with feedback and discussion, were completed and evidence of internal procedural validity was collected via panelists' evaluations.

The results of the evaluations indicated that the panelists understood the process and the tasks they were asked to complete, found the instructions easy to follow and the training and materials sufficient and clear, and had adequate time to complete the various tasks. For most grades, the majority of panelists judged the final recommended threshold scores to be appropriate (not too high or too low); the exception was for recommended threshold scores in mathematics grades six, eight, and eleven.

Immediately following each workshop, preliminary results were provided to the CDE in the form of recommended threshold scores for each performance level in the content areas of ELA and mathematics for grades three through eight and grade eleven. Tables of results for both ELA and mathematics were provided to the CDE on August 26, 2016. The final standard-setting report presented here provides details about panelists, materials, and processes that were not included in the preliminary results table.

References

- Cizek, G. J., & Bunch, M. B. (2007). *Standard setting*. Thousand Oaks, CA: Sage Publications.
- Hambleton, R. K., & Pitoniak, M. J. (2006). Setting performance standards. In R. L. Brennan (Ed.), *Educational measurement* (4th ed.). (pp. 433–70). Westport, CT: American Council on Education and Praeger Publishers.
- Lewis, D. M., Green, D. R., Mitzel, H. C., Baum, K., & Patz, R. J. (1996). Standard setting: A bookmark approach. In D. R. Green (Chair), *IRT based standard setting procedures utilizing behavior anchoring*. Symposium conducted at the Council of Chief State School Officers National Conference on Large-Scale Assessment: Phoenix, AZ.
- MacCann, R. G., & Stanley, G. (2004). Estimating the standard error of the judging in a modified-Angoff standards setting procedure. *Practical Assessment, Research & Evaluation*, 9. Retrieved from <http://pareonline.net/getvn.asp?v=9&n=5>
- Mitzel, H. C., Lewis, D. M., Patz, R. J., & Green, D. R. (2001). The bookmark procedure: Psychological perspectives. In G. J. Cizek (Ed.), *Setting performance standards: Concepts, methods, and perspectives* (pp. 249–81). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Appendix 1: English Language Arts/Literacy (ELA) Table- and Room-Level Judgments, by Round

Table 1.1 ELA, Grade Three, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	21	8	20.0	5.4	1	20	5	20.0	6.5	1	45	17	20.0	11.5
2	32	9	16.5	10.7	2	23	17	19.0	3.0	2	23	19	21.0	1.8
Room	32	8	20.0	7.6	Room	23	5	20.0	5.3	Room	45	17	20.0	8.4
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	53	37	43.0	6.9	1	53	44	52.0	4.3	1	67	42	52.0	9.7
2	52	35	40.0	7.6	2	43	37	40.0	3.5	2	43	40	42.5	1.4
Room	53	35	43.0	7.0	Room	53	37	44.0	6.3	Room	67	40	43.0	8.6

S.D. = Standard deviation

Table 1.2 ELA, Grade Four, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	32	12	17.0	7.9	1	27	14	25.0	5.3	1	27	14	19.0	5.0
2	27	20	24.0	3.3	2	27	25	25.5	1.0	2	27	25	25.5	1.0
Room	32	12	20.0	6.5	Room	27	14	25.0	4.1	Room	27	14	25.0	4.9
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	47	40	45.0	2.9	1	56	35	45.0	8.0	1	54	33	35.0	8.6
2	50	37	43.5	5.4	2	45	44	45.0	0.5	2	45	44	45.0	0.5
Room	50	37	45.0	3.9	Room	56	35	45.0	5.7	Room	54	33	44.0	6.7

S.D. = Standard deviation

Table 1.3 ELA, Grade Five, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	40	6	24.0	12.6	1	31	23	26.0	3.6	1	31	23	31.0	3.7
2	31	22	23.0	4.3	2	31	23	24.0	3.7	2	26	23	24.0	1.3
Room	40	6	24.0	9.3	Room	31	23	25.0	3.5	Room	31	23	26.0	3.5
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	65	31	54.0	13.1	1	65	49	61.0	6.6	1	65	52	61.0	5.3
2	64	56	58.5	3.4	2	67	59	61.5	3.9	2	60	59	59.0	0.5
Room	65	31	56.0	10.7	Room	67	49	61.0	5.3	Room	65	52	60.0	3.9

S.D. = Standard deviation

Table 1.4 ELA, Grade Six, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	35	28	32.0	3.1	1	30	28	28.0	0.9	1	30	28	28.0	0.9
2	37	24	27.5	5.6	2	37	30	34.0	3.0	2	37	32	33.0	2.2
Room	37	24	28.0	4.2	Room	37	28	30.0	3.4	Room	37	28	30.0	3.1
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	68	53	61.0	6.1	1	68	58	66.0	5.2	1	68	62	65.0	2.4
2	60	50	55.5	5.0	2	65	55	60.5	4.3	2	63	59	60.5	2.1
Room	68	50	59.0	6.1	Room	68	55	62.0	4.8	Room	68	59	63.0	3.0

S.D. = Standard deviation

Table 1.5 ELA, Grade Seven, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	24	9	18.0	6.7	1	29	17	21.0	5.6	1	29	17	17.5	5.9
2	29	14	19.5	6.4	2	29	22	24.5	2.9	2	29	24	25.0	2.2
Room	29	9	19.5	6.3	Room	29	17	24.0	4.4	Room	29	17	24.5	5.0
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	58	36	43.5	9.6	1	58	36	45.0	9.9	1	58	36	44.5	9.8
2	48	28	42.5	9.3	2	59	37	44.0	10.5	2	59	38	38.0	10.5
Room	58	28	43.5	9.2	Room	59	36	45.0	9.5	Room	59	36	39.0	9.5

S.D. = Standard deviation

Table 1.6 ELA, Grade Eight, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	26	12	17.0	7.1	1	26	12	22.0	6.0	1	42	12	27.0	12.9
2	23	12	15.0	5.3	2	23	22	22.5	0.6	2	23	22	22.0	0.5
Room	26	12	15.0	5.9	Room	26	12	22.0	4.1	Room	42	12	22.0	8.8
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	55	23	36.0	13.3	1	55	36	49.5	9.3	1	58	44	50.5	6.8
2	55	23	32.0	13.8	2	55	55	55.0	0.0	2	55	55	55.0	0.0
Room	55	23	34.0	12.6	Room	55	36	55.0	7.3	Room	58	44	55.0	5.0

S.D. = Standard deviation

Table 1.7 ELA, Grade Eleven, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	18	14	17.0	1.7	1	19	16	17.0	1.1	1	19	18	19.0	0.4
2	19	9	18.0	4.0	2	35	19	19.0	6.4	2	35	19	19.0	6.4
Room	19	9	17.0	3.0	Room	35	16	19.0	5.2	Room	35	18	19.0	4.9
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	60	37	39.0	9.6	1	38	32	32.0	3.3	1	38	38	38.0	0.0
2	58	32	34.0	10.1	2	69	30	38.0	15.2	2	58	38	40.0	8.8
Room	60	32	38.0	9.7	Room	69	30	38.0	12.2	Room	58	38	38.0	7.1

S.D. = Standard deviation

Appendix 2: Mathematics Table- and Room-Level Judgments, by Round

Table 2.1 Mathematics, Grade Three, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	21	5	15.0	6.7	1	22	21	22.0	0.5	1	22	22	22.0	0.0
2	22	14	14.5	3.9	2	22	9	22.0	6.5	2	22	22	22.0	0.0
Room	22	5	14.5	5.2	Room	22	9	22.0	4.6	Room	22	22	22.0	0.0
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	53	23	35.5	13.1	1	53	29	30.0	11.7	1	30	30	30.0	0.0
2	63	30	42.5	16.1	2	32	30	30.5	1.0	2	32	30	30.5	1.0
Room	63	23	36.5	14.2	Room	53	29	30.0	8.1	Room	32	30	30.0	0.7

S.D. = Standard deviation

Table 2.2 Mathematics, Grade Four, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	30	5	10.5	11.2	1	19	13	14.5	2.9	1	19	13	19.0	3.0
2	20	8	14.5	6.7	2	31	15	24.5	7.5	2	29	15	27.5	6.7
Room	30	5	11.0	8.5	Room	31	13	17.5	7.0	Room	29	13	19.0	6.2
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	44	19	35.5	10.7	1	38	33	36.0	2.1	1	38	36	38.0	1.0
2	44	26	38.0	7.5	2	44	38	41.0	3.5	2	44	30	44.0	7.0
Room	44	19	38.0	8.7	Room	44	33	38.0	3.9	Room	44	30	38.0	4.9

S.D. = Standard deviation

Table 2.3 Mathematics, Grade Five, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	18	13	15.0	2.6	1	18	7	18.0	5.5	1	18	4	18.0	7.0
2	19	10	16.5	3.9	2	19	18	18.5	0.6	2	19	18	18.5	0.6
Room	19	10	16.5	3.1	Room	19	7	18.0	4.0	Room	19	4	18.0	5.1
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	50	27	42.0	10.1	1	47	18	46.5	14.3	1	47	18	46.5	14.3
2	53	28	40.0	11.7	2	52	39	46.0	5.4	2	47	47	47.0	0.0
Room	53	27	42.0	10.1	Room	52	18	46.5	10.6	Room	47	18	47.0	10.2

S.D. = Standard deviation

Table 2.4 Mathematics, Grade Six, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
Level 2—Alternate					Level 2—Alternate					Level 2—Alternate				
	High	Low	Median	S.D.		High	Low	Median	S.D.		High	Low	Median	S.D.
Table					Table					Table				
1	13	11	12.5	1.0	1	16	12	14.0	1.8	1	16	12	14.0	1.8
2	17	10	11.5	3.3	2	17	11	13.0	2.5	2	17	14	16.5	1.4
Room	17	10	12.5	2.3	Room	17	11	13.0	2.1	Room	17	12	15.5	1.9
Level 3—Alternate					Level 3—Alternate					Level 3—Alternate				
	High	Low	Median	S.D.		High	Low	Median	S.D.		High	Low	Median	S.D.
Table					Table					Table				
1	43	18	30.5	10.8	1	56	32	43.0	9.8	1	43	32	37.5	6.4
2	43	22	36.5	10.3	2	35	32	33.5	1.3	2	39	32	32.0	3.5
Room	43	18	32.5	10.0	Room	56	32	34.5	8.4	Room	43	32	32.0	5.2

S.D. = Standard deviation

Table 2.5 Mathematics, Grade Seven, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	21	16	21.0	2.9	1	23	21	21.0	1.2	1	21	21	21.0	0.0
2	27	17	21.0	4.1	2	22	21	21.0	0.5	2	21	21	21.0	0.0
Room	27	16	21.0	3.6	Room	23	21	21.0	0.8	Room	21	21	21.0	0.0
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	49	27	38.0	11.0	1	42	42	42.0	0.0	1	42	42	42.0	0.0
2	63	32	42.5	13.1	2	58	40	45.0	8.1	2	58	40	45.0	8.1
Room	63	27	40.0	11.9	Room	58	40	42.0	6.3	Room	58	40	42.0	6.3

S.D. = Standard deviation

Table 2.6 Mathematics, Grade Eight, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	34	21	22.0	7.2	1	21	21	21.0	0.0	1	21	21	21.0	0.0
2	17	11	15.0	3.1	2	21	15	18.0	3.0	2	21	21	21.0	0.0
Room	34	11	19.0	7.9	Room	21	15	21.0	2.5	Room	21	21	21.0	0.0
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	52	34	52.0	10.4	1	42	35	40.0	3.6	1	35	34	35.0	0.6
2	33	30	32.0	1.5	2	47	33	40.0	7.0	2	62	47	52.0	7.6
Room	52	30	33.5	10.3	Room	47	33	40.0	5.0	Room	62	34	41.0	11.5

S.D. = Standard deviation

Table 2.7 Mathematics, Grade Eleven, Table- and Room-Level Judgments, by Round

Round 1					Round 2					Round 3				
<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>					<i>Level 2—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	32	9	18.0	10.3	1	34	19	20.5	7.0	1	34	13	20.5	8.8
2	32	20	25.0	5.5	2	28	25	25.0	1.5	2	28	24	25.0	1.7
Room	32	9	22.5	8.4	Room	34	19	25.0	4.9	Room	34	13	24.5	6.1
<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>					<i>Level 3—Alternate</i>				
	<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>		<i>High</i>	<i>Low</i>	<i>Median</i>	<i>S.D.</i>
Table					Table					Table				
1	43	32	35.5	4.8	1	51	34	36.0	7.9	1	43	29	33.0	6.0
2	49	32	40.0	9.0	2	47	34	45.0	5.9	2	49	34	46.0	6.7
Room	49	32	35.5	7.0	Room	51	34	40.5	6.7	Room	49	29	38.5	7.7

S.D. = Standard deviation

Appendix 3: English Language Arts/Literacy (ELA) Scale Score Distributions for the California Alternate Assessments—Total Group and Subgroups

Table 3.1 ELA, Grade Three, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
82	-4.72	83	82	83	91	80	83	77	72	84	84	86	81
90	-4.40	82	81	82	91	79	82	75	72	83	84	85	81
101	-3.96	81	80	82	91	78	81	75	72	82	84	84	81
109	-3.64	81	80	81	91	78	80	75	72	81	84	84	80
113	-3.48	80	79	80	91	77	80	72	72	81	84	84	79
120	-3.20	79	79	80	91	77	80	72	67	80	84	84	79
122	-3.12	79	78	79	91	77	79	72	61	80	82	84	79
129	-2.84	79	78	79	91	76	79	72	61	79	82	84	78
130	-2.80	79	78	79	91	76	79	72	61	79	82	84	78
135	-2.60	78	78	79	91	76	78	71	61	79	82	84	78
136	-2.56	78	77	78	91	75	78	71	61	78	82	84	77
141	-2.36	77	77	78	91	75	77	71	61	78	82	84	77
141	-2.36	77	76	77	91	74	76	69	61	78	82	82	76
146	-2.16	77	76	77	91	74	75	68	61	77	82	82	76
146	-2.16	76	75	77	91	73	75	68	61	77	79	80	76
150	-2.00	76	75	76	91	73	75	67	56	77	79	80	75
151	-1.96	75	74	76	88	72	74	67	56	76	79	78	75
154	-1.84	75	74	75	88	72	74	67	56	76	79	78	74
155	-1.80	75	73	75	88	72	74	67	56	75	79	77	74
157	-1.72	74	73	75	88	71	74	67	56	75	79	77	74
158	-1.68	74	73	75	88	71	74	67	56	75	76	77	74
159	-1.64	74	72	74	88	70	74	67	56	74	76	77	73
161	-1.56	73	72	74	88	70	74	67	56	74	76	77	73
161	-1.56	73	72	74	88	70	74	67	56	74	74	77	73
162	-1.52	73	72	74	88	70	73	67	56	74	74	77	73
162	-1.52	73	72	73	88	69	72	67	56	74	74	77	72
164	-1.44	73	72	73	88	69	72	67	56	73	74	77	72
165	-1.40	72	71	73	88	69	72	66	56	73	74	77	72
166	-1.36	72	71	72	88	68	72	66	56	73	74	76	71

Scale score	Theta score	Total	Female	Male	Amerian Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
166	-1.36	71	70	72	88	67	71	64	56	72	74	76	71
168	-1.28	71	69	72	88	67	70	64	56	72	74	76	71
168	-1.28	70	69	71	88	66	69	63	50	71	71	73	70
169	-1.24	70	69	71	88	66	69	62	50	71	71	73	70
169	-1.24	69	68	70	88	65	68	60	50	70	68	73	69
171	-1.16	69	68	70	88	65	68	60	50	70	68	73	69
171	-1.16	68	67	69	85	65	68	59	50	69	68	71	68
173	-1.08	68	66	69	85	64	67	58	50	69	68	71	68
173	-1.08	67	65	68	85	63	66	56	50	68	68	71	66
174	-1.04	67	65	68	85	63	66	56	50	68	68	71	66
174	-1.04	66	64	67	82	63	64	55	50	66	68	70	65
176	-0.96	66	63	66	82	63	64	55	50	66	68	70	65
177	-0.92	66	63	66	82	63	64	55	50	66	68	70	65
180	-0.80	63	61	64	76	62	62	50	50	64	66	67	63
183	-0.68	60	58	61	71	58	58	48	50	61	63	64	60
186	-0.56	57	55	58	68	53	54	42	44	58	61	62	57
189	-0.44	54	52	55	65	51	52	41	39	55	58	60	54
191	-0.36	51	48	52	62	47	49	37	39	51	55	55	51
191	-0.36	49	46	50	59	44	47	36	33	50	55	51	49
192	-0.32	49	46	50	59	44	47	36	33	50	55	51	49
192	-0.32	47	45	48	59	42	45	35	28	48	53	50	48
194	-0.24	47	45	48	59	42	45	35	28	48	53	50	48
195	-0.20	46	43	47	56	40	44	34	28	47	50	49	47
195	-0.20	44	42	45	56	37	42	34	22	45	50	48	45
196	-0.16	44	42	45	56	37	41	34	22	45	50	48	45
197	-0.12	44	42	45	56	37	41	34	22	45	50	48	45
198	-0.08	42	40	43	56	37	40	33	22	43	50	46	43
198	-0.08	40	39	41	56	34	39	30	17	41	47	44	42
199	-0.04	40	39	41	56	34	39	30	17	41	47	44	42
200	0.00	39	38	40	47	33	37	30	17	40	47	43	40
201	0.04	39	37	40	47	32	36	29	17	40	47	42	40
202	0.08	37	35	38	44	30	34	29	17	38	45	41	40
203	0.12	36	34	37	44	29	33	29	17	37	37	41	38
204	0.16	36	34	37	44	29	33	29	17	37	37	41	38
205	0.20	34	32	35	38	27	32	26	17	35	37	39	36
205	0.20	33	31	34	38	25	32	24	17	34	37	39	35
207	0.28	32	30	33	35	25	31	24	17	33	37	39	34
208	0.32	32	30	32	35	25	30	24	17	32	37	39	33
208	0.32	30	29	31	32	24	29	24	17	31	34	38	32

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
210	0.40	29	28	30	32	23	29	23	17	29	34	37	31
210	0.40	29	28	29	32	22	28	23	17	29	32	37	30
211	0.44	28	26	28	29	21	28	21	17	28	29	36	29
211	0.44	27	26	28	29	20	28	21	17	28	29	36	29
213	0.52	26	25	27	26	19	26	18	17	27	29	35	28
214	0.56	25	24	26	26	18	25	17	17	26	29	32	27
216	0.64	24	23	25	24	16	25	15	17	25	29	29	26
217	0.68	22	21	23	24	15	24	14	17	23	24	29	24
220	0.80	21	19	22	21	13	23	13	17	21	24	27	23
221	0.84	19	18	20	15	13	20	11	17	20	24	26	22
223	0.92	18	17	19	12	13	18	8	17	18	21	24	20
224	0.96	17	16	18	12	12	18	8	17	17	21	20	19
227	1.08	16	14	16	12	11	16	8	6	16	18	18	17
228	1.12	14	13	15	12	10	16	5	6	15	18	14	16
231	1.24	13	11	14	12	8	14	5	6	13	8	14	14
232	1.28	12	10	12	12	8	13	3	6	12	8	12	13
235	1.40	10	9	11	9	7	12	2	6	11	8	12	12
237	1.48	9	8	10	9	6	11	2	6	9	8	10	10
240	1.60	8	6	8	9	4	9	2	0	8	3	8	9
242	1.68	7	5	7	6	4	7	2	0	7	3	7	9
245	1.80	6	4	7	6	3	6	2	0	6	0	6	8
249	1.96	5	4	5	6	3	4	1	0	5	0	6	6
251	2.04	4	3	4	6	2	3	1	0	4	0	4	5
257	2.28	3	2	4	6	2	3	0	0	3	0	3	4
259	2.36	2	2	3	3	1	2	0	0	3	0	3	3
268	2.72	2	1	2	3	1	2	0	0	2	0	2	2
270	2.80	1	1	1	0	1	1	0	0	1	0	2	1
286	3.44	1	1	1	0	0	1	0	0	1	0	1	1
288	3.52	0	0	0	0	0	0	0	0	0	0	1	1
350	6.00	0	0	0	0	0	0	0	0	0	0	1	0

Table 3.2 ELA, Grade Four, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	Amerian Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
95	-4.20	83	81	85	81	79	81	83	88	84	80	82	84
96	-4.16	82	80	84	81	78	80	82	88	83	74	82	82
114	-3.44	82	79	83	81	76	79	82	88	83	72	80	82
115	-3.40	81	79	82	81	75	79	82	88	82	72	80	81
126	-2.96	81	78	82	81	75	78	80	88	82	72	80	81
127	-2.92	80	78	82	81	74	78	80	88	82	72	80	80
134	-2.64	80	78	81	81	74	77	79	88	82	72	78	80
136	-2.56	80	77	81	81	73	77	79	88	81	72	77	80
141	-2.36	80	77	81	81	73	77	79	88	81	72	77	80
143	-2.28	79	77	80	81	71	76	78	88	81	72	77	79
147	-2.12	79	76	80	81	70	76	78	88	80	72	77	79
149	-2.04	78	76	80	75	69	76	78	88	80	72	77	78
152	-1.92	78	75	79	75	69	75	76	88	79	72	75	78
154	-1.84	77	74	79	75	68	74	75	88	79	68	73	78
157	-1.72	77	74	78	75	68	73	75	88	78	68	73	78
159	-1.64	76	73	78	75	68	73	74	88	78	68	73	77
161	-1.56	76	73	77	75	67	72	74	88	78	68	73	76
163	-1.48	75	73	77	75	66	71	73	88	77	68	71	76
165	-1.40	75	72	76	75	65	71	73	88	77	68	71	75
167	-1.32	74	72	76	75	65	71	72	88	76	68	70	74
169	-1.24	74	72	75	75	64	71	71	88	76	68	70	74
170	-1.20	74	71	75	75	64	70	71	85	76	66	70	74
171	-1.16	73	71	74	75	64	70	71	81	75	66	70	74
172	-1.12	73	71	74	75	63	69	69	81	75	66	70	74
173	-1.08	72	70	73	75	63	69	68	77	74	66	70	73
174	-1.04	72	70	73	75	63	69	68	77	74	66	70	72
175	-1.00	72	70	73	75	62	68	67	77	74	66	69	72
176	-0.96	72	69	73	72	62	68	67	77	74	66	69	72
177	-0.92	70	68	71	72	61	67	66	73	73	66	68	70
178	-0.88	70	68	71	72	60	66	65	73	72	66	68	70
179	-0.84	70	68	71	72	60	66	65	73	72	66	68	69
180	-0.80	69	66	70	72	59	65	63	69	71	62	65	68
181	-0.76	67	65	68	69	56	65	61	69	70	62	65	66
182	-0.72	67	65	68	69	56	65	61	69	70	62	65	66
183	-0.68	66	64	67	69	55	64	59	69	68	60	63	65
184	-0.64	64	63	65	69	54	63	56	65	67	60	63	63
186	-0.56	62	61	63	67	52	61	54	62	64	58	61	62
187	-0.52	60	58	61	67	49	60	52	62	62	56	59	60
188	-0.48	58	57	59	67	47	58	51	62	60	56	58	58
190	-0.40	56	55	57	64	44	56	49	62	58	54	58	55

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
191	-0.36	54	53	55	61	43	54	48	58	56	48	56	54
193	-0.28	52	50	53	61	40	50	46	50	53	48	54	52
194	-0.24	50	48	51	58	37	49	42	50	52	46	50	50
195	-0.20	47	46	48	56	36	48	39	50	49	46	49	48
196	-0.16	46	44	47	56	35	46	37	50	47	46	45	46
198	-0.08	43	42	44	53	32	43	32	50	45	44	42	44
198	-0.08	43	42	44	53	32	43	32	50	45	44	42	44
199	-0.04	42	40	42	50	31	42	30	50	44	44	42	41
199	-0.04	42	40	42	50	30	42	30	50	43	44	42	41
201	0.04	39	38	40	47	29	39	28	42	41	42	39	39
201	0.04	39	37	40	47	28	39	28	42	41	42	39	39
202	0.08	37	35	38	47	27	37	23	38	39	40	38	37
202	0.08	37	35	38	47	27	37	23	38	39	40	37	37
203	0.12	35	34	35	44	25	33	20	38	37	36	35	35
203	0.12	34	33	35	44	25	33	20	38	36	36	35	35
205	0.20	33	31	34	42	23	31	20	35	34	34	33	34
205	0.20	32	31	33	42	23	31	20	31	34	34	33	33
206	0.24	31	29	32	42	22	31	18	31	32	32	31	31
206	0.24	30	28	31	42	21	30	18	31	32	30	31	30
207	0.28	29	27	30	42	20	28	16	27	31	28	30	29
207	0.28	28	26	29	42	20	28	15	27	30	28	30	28
208	0.32	27	25	28	36	19	27	14	27	29	26	29	27
209	0.36	26	25	27	36	19	27	14	23	28	26	28	26
210	0.40	26	24	26	33	18	26	12	23	27	24	25	26
210	0.40	25	23	25	33	16	25	12	23	26	22	25	25
211	0.44	24	22	24	31	14	24	11	23	25	20	25	25
212	0.48	23	21	23	31	14	22	11	23	24	18	23	24
213	0.52	22	21	23	31	14	22	10	23	24	18	23	23
213	0.52	21	20	22	31	13	21	9	19	22	16	23	22
214	0.56	21	19	22	31	13	21	8	19	22	16	23	22
215	0.60	20	18	21	28	12	20	8	19	21	14	22	21
216	0.64	20	18	21	28	12	20	8	19	21	14	22	21
217	0.68	18	17	19	28	11	19	7	19	19	14	20	19
218	0.72	17	16	18	28	10	18	7	19	18	14	18	18
220	0.80	16	15	16	25	10	16	7	19	16	14	17	16
222	0.88	14	13	15	22	10	14	7	19	15	14	15	15
223	0.92	13	12	13	17	8	13	6	15	13	14	13	14
225	1.00	12	11	12	14	7	12	6	15	12	12	13	13
226	1.04	10	9	11	14	7	11	5	15	10	12	11	11
228	1.12	9	8	9	14	6	10	5	12	9	12	11	10
230	1.20	8	8	8	14	4	9	3	12	8	12	8	9
232	1.28	7	6	7	14	4	8	3	8	7	12	7	8

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
234	1.36	6	6	6	14	3	7	3	8	6	10	7	7
236	1.44	5	5	5	14	3	6	3	8	5	8	7	6
238	1.52	4	4	4	14	2	6	2	8	4	6	6	5
241	1.64	4	3	4	8	2	5	2	8	3	6	6	4
243	1.72	3	3	3	8	1	4	2	8	3	4	6	3
246	1.84	2	2	2	6	1	3	1	4	2	4	4	3
250	2.00	2	2	2	6	1	2	1	4	2	2	4	2
253	2.12	1	1	1	6	1	1	1	0	1	2	3	2
258	2.32	1	1	1	6	1	1	1	0	1	2	3	2
261	2.44	1	1	1	6	0	1	0	0	1	2	2	1
268	2.72	1	1	1	6	0	0	0	0	1	0	2	1
272	2.88	1	1	1	3	0	0	0	0	1	0	1	1
286	3.44	0	0	0	3	0	0	0	0	0	0	0	0
290	3.60	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 3.3 ELA, Grade Five, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
96	-4.16	84	84	84	93	77	84	85	77	84	78	86	84
99	-4.04	83	84	83	93	75	84	83	77	84	78	84	84
115	-3.40	83	83	82	93	74	83	83	77	83	78	82	83
118	-3.28	82	83	82	93	74	83	83	77	83	78	82	83
127	-2.92	82	82	82	93	74	83	83	74	83	75	82	83
130	-2.80	82	82	82	93	74	83	83	74	83	75	82	82
135	-2.60	82	82	82	93	74	83	82	74	82	75	82	82
138	-2.48	82	82	82	93	74	83	81	71	82	72	82	82
142	-2.32	81	81	81	93	73	83	81	71	82	72	82	82
145	-2.20	81	81	81	93	73	82	81	71	81	69	82	82
148	-2.08	81	81	81	93	73	82	80	71	81	66	81	81
151	-1.96	80	80	80	93	73	82	80	71	81	66	81	81
154	-1.84	80	80	80	89	73	82	80	71	80	66	80	80
156	-1.76	79	79	79	89	72	81	80	71	80	63	79	79
158	-1.68	79	79	79	87	71	81	79	71	79	59	78	79
160	-1.60	78	78	78	87	71	80	78	71	79	59	78	78
161	-1.56	77	77	77	87	69	79	76	71	78	59	78	77
162	-1.52	77	77	77	87	69	79	76	71	78	59	78	77
164	-1.44	77	77	77	87	69	79	76	71	78	59	78	76
166	-1.36	76	76	76	87	68	78	76	65	77	59	78	75
168	-1.28	76	76	76	87	67	78	73	65	77	59	78	75
170	-1.20	75	75	75	87	66	78	71	65	76	59	75	74
171	-1.16	75	74	75	82	65	78	71	65	76	59	75	74
173	-1.08	74	74	74	82	64	77	71	65	76	59	74	73
174	-1.04	74	73	74	82	64	77	71	65	75	59	74	73
175	-1.00	73	73	74	82	64	76	71	65	75	59	74	72
176	-0.96	73	72	73	82	63	76	69	65	74	59	73	72
177	-0.92	72	71	73	82	62	76	69	65	73	59	73	72
178	-0.88	72	71	72	82	61	75	66	65	73	59	70	71
180	-0.80	71	70	71	82	60	75	65	61	72	59	70	70
181	-0.76	69	68	70	80	59	73	63	61	70	59	69	69
182	-0.72	68	67	68	78	57	72	62	58	69	59	66	68
183	-0.68	68	67	68	78	57	71	62	58	69	59	66	68
184	-0.64	66	65	67	78	55	69	60	58	68	53	63	66
185	-0.60	65	63	65	78	55	66	60	58	66	50	62	64
186	-0.56	65	63	65	78	55	65	59	58	66	50	62	64
187	-0.52	63	62	64	78	53	64	58	55	65	50	60	62
188	-0.48	62	60	63	78	52	62	57	55	64	50	57	61
189	-0.44	62	60	63	78	52	62	57	55	64	50	57	61
190	-0.40	60	58	61	73	49	60	55	55	62	50	53	59

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
191	-0.36	57	55	58	69	48	57	53	52	59	50	51	57
192	-0.32	57	55	58	69	48	57	53	52	59	50	51	57
193	-0.28	55	52	56	69	45	54	50	52	57	47	51	54
193	-0.28	52	50	53	67	42	51	45	45	54	47	49	52
195	-0.20	52	50	53	67	42	51	45	45	54	47	49	52
198	-0.08	48	45	49	67	38	45	37	42	50	41	43	48
200	0.00	43	41	44	64	34	41	30	35	45	38	40	44
200	0.00	43	41	44	64	34	41	30	35	45	38	40	44
201	0.04	41	39	41	62	31	38	27	35	43	34	36	41
203	0.12	38	36	39	60	29	36	24	32	40	28	33	38
203	0.12	38	36	39	60	29	35	24	32	40	28	33	38
205	0.20	33	30	34	56	22	30	22	23	35	22	26	33
206	0.24	33	30	34	56	22	30	22	23	35	22	26	33
206	0.24	33	30	34	56	22	30	22	23	35	22	26	33
208	0.32	29	25	30	51	19	27	18	19	31	13	21	29
209	0.36	28	25	29	49	18	26	17	19	30	13	21	28
211	0.44	25	22	26	47	14	23	13	13	26	13	20	26
212	0.48	23	21	24	44	13	22	12	13	24	13	20	25
214	0.56	21	19	22	42	12	20	11	13	22	13	20	23
215	0.60	19	17	20	40	11	18	11	13	19	13	19	21
217	0.68	18	16	19	38	10	17	9	13	18	13	17	20
218	0.72	15	13	16	38	7	16	5	13	15	9	16	17
220	0.80	15	13	16	38	7	16	5	13	15	9	16	17
221	0.84	11	10	12	27	5	12	4	6	12	9	10	14
223	0.92	11	10	12	27	5	12	4	6	12	9	10	13
226	1.04	8	7	9	18	4	10	3	6	8	9	8	10
227	1.08	7	6	7	11	2	8	3	6	7	9	5	9
230	1.20	6	5	6	11	2	6	3	6	6	3	5	8
234	1.36	4	3	4	7	2	5	1	6	4	3	2	5
239	1.56	3	2	3	0	1	3	0	6	3	3	1	3
244	1.76	2	1	2	0	1	2	0	3	2	0	1	2
251	2.04	1	1	1	0	0	1	0	3	1	0	1	1
259	2.36	1	0	1	0	0	1	0	0	1	0	0	1
270	2.80	0	0	0	0	0	0	0	0	0	0	0	0
288	3.52	0	0	0	0	0	0	0	0	0	0	0	0

Table 3.4 ELA, Grade Six, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
97	-4.12	84	83	85	86	83	85	84	76	85	84	80	84
107	-3.72	84	83	84	86	83	85	84	76	84	84	80	83
116	-3.36	83	83	84	86	82	85	83	71	84	84	80	83
125	-3.00	83	82	83	86	81	84	81	67	83	81	77	82
127	-2.92	82	81	82	86	80	83	81	67	82	81	75	80
135	-2.60	81	80	82	86	79	82	81	67	82	81	75	80
135	-2.60	81	80	81	86	78	82	80	67	82	81	75	79
141	-2.36	80	80	81	86	77	81	79	62	81	81	75	79
142	-2.32	80	79	80	81	77	81	79	62	81	81	75	78
146	-2.16	80	79	80	81	77	80	79	62	81	81	74	78
148	-2.08	79	78	80	78	76	80	79	62	80	81	74	78
151	-1.96	79	78	79	78	76	80	78	62	80	81	73	77
153	-1.88	78	78	79	78	76	80	78	62	79	76	71	77
155	-1.80	78	77	78	78	75	80	78	62	79	73	71	77
157	-1.72	77	77	78	78	75	80	78	62	78	73	71	76
159	-1.64	77	76	77	76	74	79	77	62	78	73	70	75
161	-1.56	77	76	77	76	74	79	76	57	78	73	70	75
162	-1.52	76	76	76	76	73	78	76	57	77	73	69	74
164	-1.44	76	75	76	76	73	78	76	57	77	73	69	74
165	-1.40	75	75	75	73	70	77	75	57	76	70	68	73
168	-1.28	75	74	75	73	70	77	74	57	76	70	68	73
168	-1.28	74	73	74	73	69	77	74	57	75	70	67	73
171	-1.16	73	73	74	73	69	76	74	57	74	70	67	73
171	-1.16	73	73	73	73	68	76	74	57	74	70	67	72
171	-1.16	72	72	72	73	67	74	73	57	73	70	66	71
174	-1.04	72	71	72	73	67	74	73	57	73	70	66	71
174	-1.04	71	71	72	73	66	72	73	57	73	70	66	70
174	-1.04	71	70	72	73	66	72	73	57	72	70	66	70
175	-1.00	71	70	72	73	66	72	73	57	72	70	65	70
176	-0.96	70	70	70	73	65	71	73	57	72	68	64	68
177	-0.92	70	69	70	73	65	70	73	57	71	68	64	68
178	-0.88	70	69	70	73	65	70	73	57	71	68	64	68
178	-0.88	69	68	69	73	64	69	72	57	70	65	63	67
179	-0.84	68	67	68	73	63	68	72	52	69	62	63	66
181	-0.76	68	67	68	73	63	67	72	52	69	62	63	66
181	-0.76	66	66	67	73	63	67	71	48	68	62	60	64
182	-0.72	65	65	66	73	61	65	71	48	67	59	59	63
184	-0.64	65	64	66	73	61	65	70	48	67	59	59	63
184	-0.64	64	63	64	68	60	65	67	48	65	59	57	62
184	-0.64	62	61	63	65	58	63	65	43	64	59	56	61

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
187	-0.52	62	61	63	65	58	62	65	43	64	59	56	61
187	-0.52	61	60	61	65	55	60	64	43	62	59	55	58
187	-0.52	59	58	59	62	53	58	61	43	60	59	54	57
189	-0.44	59	58	59	62	53	58	61	43	60	59	54	57
190	-0.40	57	57	57	62	51	56	58	43	59	59	51	55
190	-0.40	56	55	56	62	49	54	57	43	57	57	48	54
192	-0.32	55	55	56	62	49	54	57	43	57	57	48	54
192	-0.32	54	52	54	62	48	52	56	43	55	54	43	52
193	-0.28	54	52	54	62	48	52	56	43	55	54	43	52
195	-0.20	52	50	52	59	45	51	53	38	53	51	42	50
196	-0.16	50	49	50	59	41	49	50	33	52	46	40	48
197	-0.12	47	46	48	59	40	46	46	33	49	43	37	46
199	-0.04	45	44	46	59	39	42	45	33	47	41	35	45
200	0.00	43	41	44	54	37	40	43	33	45	38	34	43
202	0.08	41	39	42	49	35	37	43	29	43	38	33	42
202	0.08	39	37	40	46	32	36	39	29	41	38	31	40
203	0.12	36	34	37	43	28	34	36	24	38	38	27	37
205	0.20	36	34	37	43	28	34	35	24	38	38	27	37
205	0.20	34	32	35	43	26	32	31	24	36	38	26	35
206	0.24	32	30	33	43	25	30	30	24	34	32	26	32
206	0.24	32	30	33	43	25	30	30	24	34	32	26	32
208	0.32	32	30	33	41	24	30	30	24	34	30	25	32
208	0.32	30	28	31	38	23	29	27	19	32	30	24	31
209	0.36	28	27	29	32	22	27	26	19	30	27	24	28
210	0.40	28	27	29	32	22	27	26	19	30	27	24	28
210	0.40	26	24	27	30	19	25	21	19	28	24	21	25
212	0.48	25	23	25	30	17	24	21	19	26	24	19	25
213	0.52	24	23	25	30	17	22	21	19	26	24	19	24
213	0.52	22	21	22	27	15	20	19	19	23	22	16	21
215	0.60	21	19	21	27	14	19	18	14	22	22	16	21
215	0.60	20	18	21	27	13	18	16	14	21	22	16	20
216	0.64	19	17	20	27	12	17	16	10	20	16	16	19
217	0.68	17	16	18	22	12	14	15	10	19	14	14	18
218	0.72	17	15	17	22	12	13	15	10	18	14	14	18
218	0.72	16	15	16	22	10	12	13	10	17	14	13	17
219	0.76	16	14	16	22	10	12	13	10	17	14	12	17
220	0.80	14	13	15	19	9	11	10	10	15	11	12	15
221	0.84	14	13	14	19	9	11	10	5	15	11	12	15
221	0.84	13	12	13	19	8	9	9	5	14	8	10	14
223	0.92	13	12	13	19	8	9	9	5	14	8	10	14
223	0.92	11	10	12	16	7	9	7	5	12	5	7	13
224	0.96	11	10	12	16	7	9	7	0	12	5	7	13
224	0.96	10	9	10	16	6	7	7	0	11	5	5	11

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
226	1.04	10	9	10	16	6	7	7	0	11	5	5	11
227	1.08	9	8	9	16	6	6	7	0	10	3	4	10
229	1.16	8	7	8	14	5	5	7	0	9	3	4	9
230	1.20	7	6	7	11	4	4	6	0	7	3	4	8
233	1.32	6	6	6	11	3	4	4	0	6	3	3	7
237	1.48	4	4	4	5	2	2	3	0	5	0	2	5
240	1.60	3	3	3	3	1	2	2	0	4	0	2	3
241	1.64	3	3	3	3	1	2	1	0	3	0	1	2
245	1.80	2	2	2	3	1	1	1	0	3	0	1	2
249	1.96	1	1	1	3	1	0	1	0	2	0	1	1
250	2.00	1	1	1	3	0	0	1	0	1	0	0	1
255	2.20	1	1	1	3	0	0	1	0	1	0	0	0
256	2.24	1	1	1	3	0	0	1	0	1	0	0	0
261	2.44	0	0	1	0	0	0	1	0	1	0	0	0
262	2.48	0	0	0	0	0	0	0	0	0	0	0	0
269	2.76	0	0	0	0	0	0	0	0	0	0	0	0
270	2.80	0	0	0	0	0	0	0	0	0	0	0	0
280	3.20	0	0	0	0	0	0	0	0	0	0	0	0
298	3.92	0	0	0	0	0	0	0	0	0	0	0	0

Table 3.5 ELA, Grade Seven, Percent at and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
93	-4.28	83	81	85	84	80	80	83	76	84	76	80	84
101	-3.96	82	80	84	84	79	80	82	76	84	72	79	83
114	-3.44	81	79	83	84	78	79	81	76	83	72	79	81
121	-3.16	81	78	82	84	77	78	80	76	82	72	79	81
127	-2.92	80	78	81	84	76	78	80	76	81	72	79	81
132	-2.72	80	78	81	84	76	77	79	76	81	72	79	80
136	-2.56	79	77	80	81	76	77	79	72	80	72	78	80
141	-2.36	79	77	80	81	75	76	78	72	80	72	77	79
144	-2.24	79	77	80	81	75	75	78	72	80	72	77	79
148	-2.08	78	76	79	81	75	74	78	72	79	72	77	78
151	-1.96	78	76	79	81	75	74	78	72	79	72	77	78
155	-1.80	77	76	78	81	75	74	78	72	78	72	77	77
157	-1.72	77	75	77	81	74	73	76	72	77	72	76	77
160	-1.60	76	74	76	81	74	71	75	72	77	72	75	76
162	-1.52	75	73	76	81	72	71	74	68	76	72	74	75
165	-1.40	74	72	75	81	72	69	73	68	75	72	73	74
166	-1.36	73	71	74	81	70	68	72	68	74	72	72	73
167	-1.32	73	71	74	81	70	68	72	68	74	72	72	73
168	-1.28	72	70	73	81	69	68	72	68	73	72	72	73
169	-1.24	72	70	73	81	69	68	72	68	73	72	72	73
171	-1.16	71	69	72	81	68	67	70	68	72	69	72	72
173	-1.08	71	68	72	81	68	66	70	68	71	69	72	72
175	-1.00	70	67	71	78	65	64	68	68	71	62	71	71
176	-0.96	69	66	70	78	65	64	68	68	70	59	70	69
177	-0.92	68	65	69	78	65	63	67	68	69	59	70	69
179	-0.84	68	65	69	78	64	63	65	68	69	59	70	68
180	-0.80	67	64	68	78	64	61	63	64	68	59	68	67
182	-0.72	66	64	67	78	62	61	62	64	67	59	67	66
183	-0.68	65	63	67	78	62	60	62	64	67	59	65	66
184	-0.64	64	61	65	78	60	58	61	60	65	59	65	64
185	-0.60	63	60	64	78	58	58	61	60	64	55	65	63
186	-0.56	62	60	64	75	58	58	60	60	64	55	65	63
187	-0.52	61	58	62	72	54	55	58	60	62	55	63	61
188	-0.48	59	57	60	72	53	54	57	60	60	55	62	60
189	-0.44	59	57	60	72	53	54	57	60	60	55	62	59
190	-0.40	57	55	58	72	51	53	56	52	58	55	59	57
191	-0.36	55	54	56	72	49	52	54	52	56	52	57	55
192	-0.32	55	54	55	72	49	52	54	52	56	52	57	55
193	-0.28	55	54	55	72	49	52	54	52	56	52	57	55
194	-0.24	51	50	51	66	45	46	49	52	52	45	51	52

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
195	-0.20	51	50	51	66	45	46	49	52	52	45	51	52
196	-0.16	51	50	51	66	45	46	49	52	52	45	51	52
199	-0.04	46	46	46	59	39	43	43	48	47	38	50	47
202	0.08	41	40	41	59	33	39	35	44	41	31	47	42
202	0.08	41	40	41	59	33	39	35	44	41	31	47	42
203	0.12	36	36	36	56	29	33	27	40	36	28	39	39
204	0.16	36	36	36	56	29	33	27	40	36	28	39	39
205	0.20	36	36	36	56	28	33	27	40	36	28	39	39
207	0.28	31	30	31	41	25	26	21	32	31	24	36	35
207	0.28	31	30	31	41	25	26	21	32	31	24	36	35
208	0.32	29	28	29	41	22	25	18	28	29	24	33	33
208	0.32	29	28	29	41	22	25	18	28	29	24	33	33
210	0.40	26	25	27	38	20	23	18	24	26	21	32	31
210	0.40	26	25	27	38	20	23	18	24	26	21	32	30
211	0.44	24	23	25	38	19	22	16	24	24	17	28	29
211	0.44	24	23	25	38	19	22	16	24	24	17	28	28
213	0.52	22	21	22	38	17	19	13	24	22	17	25	26
213	0.52	22	21	22	38	17	19	13	24	22	17	24	26
214	0.56	20	20	20	38	16	17	12	24	20	14	23	24
214	0.56	20	20	20	38	16	17	11	20	20	14	23	24
216	0.64	18	18	19	34	15	16	10	20	18	14	23	22
216	0.64	18	17	18	31	13	15	10	20	18	14	23	21
217	0.68	17	16	17	28	13	15	9	20	16	14	21	21
217	0.68	16	15	16	22	12	15	9	16	15	14	21	20
219	0.76	15	14	15	19	11	13	9	16	14	14	19	18
220	0.80	13	13	14	19	10	13	8	16	13	14	19	17
220	0.80	12	11	13	19	9	12	8	12	12	7	18	16
223	0.92	11	10	12	19	9	10	7	12	10	7	18	14
223	0.92	9	7	10	19	7	9	4	8	8	7	14	11
226	1.04	8	7	9	19	6	7	3	8	8	7	13	10
227	1.08	6	6	7	9	4	6	2	4	6	3	9	8
230	1.20	6	6	7	9	4	6	2	4	6	3	9	8
233	1.32	5	4	5	9	3	4	1	4	5	3	8	6
234	1.36	4	3	4	9	2	3	1	0	4	3	7	5
238	1.52	3	2	3	9	2	2	1	0	3	0	6	5
242	1.68	2	2	2	9	1	1	0	0	2	0	6	4
243	1.72	2	1	2	9	1	1	0	0	2	0	4	3
247	1.88	1	1	2	9	1	1	0	0	1	0	3	2
248	1.92	1	1	1	9	0	1	0	0	1	0	2	2
253	2.12	1	1	1	6	0	1	0	0	1	0	2	1
254	2.16	1	0	1	3	0	0	0	0	0	0	1	1
260	2.40	0	0	0	3	0	0	0	0	0	0	0	1
261	2.44	0	0	0	3	0	0	0	0	0	0	0	1

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
268	2.72	0	0	0	3	0	0	0	0	0	0	0	0
269	2.76	0	0	0	3	0	0	0	0	0	0	0	0
280	3.20	0	0	0	3	0	0	0	0	0	0	0	0
281	3.24	0	0	0	0	0	0	0	0	0	0	0	0
298	3.92	0	0	0	0	0	0	0	0	0	0	0	0

Table 3.6 ELA, Grade Eight, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
82	-4.72	83	82	84	87	79	85	78	71	84	82	83	82
83	-4.68	82	82	83	84	79	84	77	71	84	82	81	81
101	-3.96	82	81	82	84	78	83	76	71	83	82	80	81
102	-3.92	81	80	82	82	78	83	75	71	83	76	80	81
112	-3.52	81	80	82	82	77	82	75	71	82	76	80	80
114	-3.44	81	80	81	82	77	82	75	71	82	76	80	80
121	-3.16	81	80	81	82	77	82	75	71	82	76	80	80
123	-3.08	80	80	81	82	76	82	74	71	82	76	80	79
128	-2.88	80	80	81	82	76	82	74	71	82	76	80	79
130	-2.80	80	79	80	82	76	81	74	71	81	76	80	79
134	-2.64	80	79	80	82	75	81	74	71	81	76	79	79
136	-2.56	80	79	80	82	75	80	74	71	81	76	79	79
140	-2.40	79	79	80	82	75	80	73	71	80	76	78	79
142	-2.32	79	78	79	82	74	80	72	71	80	76	78	78
145	-2.20	79	78	79	82	74	80	71	71	80	76	78	78
147	-2.12	78	78	79	82	74	79	71	67	80	76	78	78
149	-2.04	78	78	78	82	74	78	71	67	79	76	78	78
151	-1.96	78	77	78	82	73	78	71	67	79	76	77	77
153	-1.88	77	77	78	80	73	77	71	67	79	76	77	77
155	-1.80	77	77	77	78	72	77	71	67	79	76	77	77
157	-1.72	77	76	77	78	72	77	71	62	78	76	77	76
159	-1.64	77	76	77	78	72	77	71	62	78	76	77	76
160	-1.60	76	76	76	78	71	77	71	62	77	65	77	76
161	-1.56	76	76	76	78	71	77	71	62	77	65	77	76
162	-1.52	76	76	76	78	71	77	71	62	77	65	77	76
163	-1.48	76	76	76	78	71	77	71	57	77	65	77	76
164	-1.44	76	76	76	78	71	76	71	57	77	59	77	76
164	-1.44	76	75	76	78	71	76	71	57	76	59	77	76
166	-1.36	75	75	75	78	71	76	71	57	76	59	76	76
166	-1.36	75	75	75	78	71	76	70	52	76	59	76	75
167	-1.32	75	75	75	78	71	76	69	52	76	59	76	75
167	-1.32	75	74	75	78	70	75	69	52	76	53	76	75
170	-1.20	75	74	75	78	70	75	69	52	76	53	76	75
170	-1.20	74	74	74	78	70	75	69	52	75	53	74	74
171	-1.16	74	74	74	78	70	75	69	52	75	53	74	74
171	-1.16	74	74	73	78	69	75	69	52	75	53	74	74
173	-1.08	74	74	73	78	69	74	69	52	75	53	74	74
173	-1.08	73	73	73	78	68	74	67	52	74	53	73	73
173	-1.08	73	73	73	78	68	74	67	52	74	53	73	73
174	-1.04	73	73	73	78	68	74	67	52	74	53	73	73

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
176	-0.96	72	72	72	78	67	73	67	52	73	53	72	73
176	-0.96	72	72	72	78	67	73	67	52	73	53	72	73
177	-0.92	72	72	72	78	67	73	67	52	73	53	72	73
177	-0.92	71	71	72	78	66	72	66	52	73	53	70	72
179	-0.84	70	70	70	78	65	71	63	48	71	53	68	71
180	-0.80	70	70	70	78	65	71	63	48	71	53	68	71
180	-0.80	69	69	69	78	63	71	63	48	70	53	68	70
183	-0.68	68	68	69	78	62	70	60	48	69	53	67	69
183	-0.68	67	67	67	78	60	69	59	43	68	53	67	68
184	-0.64	66	66	66	78	58	68	58	43	67	53	65	67
186	-0.56	66	66	66	78	58	68	58	43	67	53	65	67
186	-0.56	64	65	64	78	56	66	57	38	66	53	64	65
186	-0.56	63	64	63	78	55	65	55	38	64	47	62	64
188	-0.48	63	64	63	78	55	65	55	38	64	47	62	64
189	-0.44	61	62	61	78	53	64	53	38	63	47	60	61
189	-0.44	59	59	59	78	49	61	51	38	60	47	58	59
191	-0.36	59	59	59	78	49	61	51	38	60	47	58	59
192	-0.32	57	57	57	76	48	59	47	38	58	41	54	57
193	-0.28	55	55	55	76	46	55	45	33	56	35	54	56
194	-0.24	53	54	52	71	44	53	43	33	54	35	51	54
196	-0.16	51	51	50	67	41	50	41	33	52	35	50	52
197	-0.12	48	49	47	64	38	48	39	33	49	35	50	50
198	-0.08	46	47	45	60	36	47	37	33	47	29	48	47
200	0.00	44	45	43	58	34	44	33	33	45	24	48	45
201	0.04	41	42	41	58	32	41	31	29	43	24	45	43
202	0.08	39	40	39	58	32	40	28	29	40	18	44	40
203	0.12	37	38	37	56	30	37	25	29	38	18	43	39
204	0.16	35	35	35	51	27	34	22	24	36	18	41	37
205	0.20	34	35	34	51	27	34	21	24	35	18	40	37
206	0.24	32	32	32	49	24	31	19	19	33	18	38	35
206	0.24	32	32	32	49	24	31	19	19	33	18	38	34
207	0.28	30	30	30	44	22	29	19	19	31	18	37	33
208	0.32	28	27	28	40	19	28	17	19	28	12	35	30
209	0.36	26	26	27	33	18	27	15	19	27	12	32	29
210	0.40	26	26	27	33	18	27	15	19	27	12	32	29
211	0.44	24	23	24	33	16	25	13	14	24	12	30	27
211	0.44	23	22	24	33	16	25	13	14	23	12	30	26
212	0.48	23	22	23	33	16	24	13	14	23	12	30	26
213	0.52	20	19	20	31	14	20	12	10	19	12	26	23
214	0.56	19	19	20	31	14	19	12	10	19	12	26	23
215	0.60	19	18	19	31	13	19	11	10	18	12	23	22
217	0.68	16	16	16	29	10	15	10	10	16	0	19	19

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
218	0.72	15	15	15	27	10	14	9	10	15	0	18	18
220	0.80	13	13	13	27	9	12	8	10	12	0	17	16
221	0.84	12	12	12	27	8	12	7	10	12	0	15	14
223	0.92	10	10	10	24	5	11	7	0	10	0	14	13
224	0.96	9	9	9	24	4	9	6	0	9	0	13	11
226	1.04	8	8	7	22	3	9	5	0	7	0	10	9
228	1.12	6	7	6	20	3	8	4	0	6	0	8	8
229	1.16	5	6	5	18	3	6	4	0	5	0	6	7
231	1.24	5	5	5	18	3	6	3	0	4	0	6	6
232	1.28	4	4	4	13	2	6	3	0	4	0	6	6
235	1.40	4	3	4	11	2	5	3	0	3	0	5	5
236	1.44	3	3	3	9	2	5	1	0	3	0	2	4
240	1.60	3	2	3	9	2	4	1	0	2	0	2	4
240	1.60	2	2	2	7	1	3	1	0	2	0	2	3
244	1.76	2	1	2	4	1	2	1	0	1	0	2	3
245	1.80	1	1	1	4	0	1	1	0	1	0	2	2
249	1.96	1	1	1	4	0	1	1	0	1	0	0	1
251	2.04	1	0	1	4	0	0	1	0	0	0	0	1
255	2.20	0	0	0	2	0	0	1	0	0	0	0	1
258	2.32	0	0	0	2	0	0	1	0	0	0	0	0
262	2.48	0	0	0	2	0	0	1	0	0	0	0	0
266	2.64	0	0	0	2	0	0	1	0	0	0	0	0
270	2.80	0	0	0	2	0	0	0	0	0	0	0	0
278	3.12	0	0	0	2	0	0	0	0	0	0	0	0

Table 3.7 ELA, Grade Eleven, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	Amerian Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
95	-4.20	86	85	87	93	81	88	84	83	86	71	90	88
100	-4.00	85	84	86	93	80	88	81	83	85	71	90	87
114	-3.44	85	84	85	93	80	87	80	83	84	71	90	87
119	-3.24	84	83	85	93	80	86	80	83	84	71	90	86
126	-2.96	84	83	85	93	79	86	80	83	84	71	89	86
130	-2.80	84	83	84	93	79	85	80	83	83	71	89	85
134	-2.64	83	83	84	93	78	85	80	83	83	67	89	85
139	-2.44	83	82	84	93	78	84	80	83	83	67	88	85
141	-2.36	83	82	83	93	77	84	79	83	83	67	88	84
145	-2.20	82	81	83	93	77	84	79	78	82	67	88	84
147	-2.12	82	81	82	90	77	84	79	78	81	67	88	84
151	-1.96	81	80	82	90	76	84	78	78	81	67	85	83
153	-1.88	81	80	82	90	76	83	78	78	80	67	84	83
156	-1.76	80	79	81	90	75	83	76	78	80	67	84	82
157	-1.72	80	79	81	90	75	83	75	78	79	67	84	82
160	-1.60	79	78	80	90	73	82	72	78	79	67	84	81
161	-1.56	79	78	79	90	73	82	72	78	78	67	84	81
162	-1.52	79	78	79	90	73	82	72	78	78	62	84	81
164	-1.44	78	77	79	90	73	81	72	78	78	62	83	80
165	-1.40	78	77	78	83	72	81	71	78	77	62	83	80
166	-1.36	77	76	78	83	72	81	71	78	77	62	83	80
167	-1.32	77	76	77	83	71	81	71	78	77	62	83	79
168	-1.28	77	76	77	83	71	81	70	78	77	62	83	79
169	-1.24	76	75	77	83	70	81	70	78	76	62	80	78
171	-1.16	76	75	76	83	69	80	70	78	75	62	80	77
172	-1.12	76	75	76	83	69	80	70	78	75	62	80	77
173	-1.08	75	74	76	83	69	80	70	78	75	62	79	77
175	-1.00	75	74	75	83	69	79	70	78	75	62	79	76
176	-0.96	74	73	75	83	69	78	70	72	74	62	79	75
178	-0.88	74	73	74	83	68	77	70	72	74	62	79	75
179	-0.84	73	72	74	83	68	76	67	72	73	62	79	74
181	-0.76	72	71	73	83	66	76	67	72	72	62	79	73
182	-0.72	72	70	72	83	66	75	66	67	72	62	79	72
183	-0.68	70	69	71	83	65	74	64	67	70	62	77	71
184	-0.64	70	69	71	83	65	74	64	67	70	62	77	71
185	-0.60	69	68	70	83	63	73	63	67	69	62	74	70
186	-0.56	69	68	70	83	63	73	63	67	69	62	74	70
187	-0.52	67	66	68	83	61	71	59	67	67	62	74	68
188	-0.48	66	64	67	83	60	69	59	67	66	62	72	67
189	-0.44	64	63	65	79	57	68	54	67	64	62	70	65

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity Two or more	White
191	-0.36	62	61	63	76	56	65	54	67	63	62	66	62
192	-0.32	59	57	60	72	52	64	49	61	60	62	63	60
194	-0.24	57	54	58	72	50	61	46	61	57	62	59	58
195	-0.20	54	51	55	72	47	60	42	61	54	57	54	55
197	-0.12	52	49	53	72	44	58	38	56	52	52	50	53
198	-0.08	46	43	47	59	37	53	33	56	46	38	44	48
200	0.00	46	43	47	59	37	53	33	56	46	38	44	48
201	0.04	40	36	42	55	32	47	31	50	39	33	40	43
202	0.08	40	36	42	55	32	47	31	50	39	33	40	43
203	0.12	37	33	39	55	29	44	30	50	36	33	40	40
204	0.16	34	31	36	52	26	40	28	44	33	24	39	37
205	0.20	34	31	36	52	26	40	28	44	33	24	39	36
206	0.24	29	25	31	41	19	35	22	39	28	14	34	32
207	0.28	28	25	30	41	19	34	21	39	28	14	33	32
208	0.32	28	24	30	41	19	33	21	39	27	14	33	32
209	0.36	24	20	26	38	16	28	17	39	23	10	29	28
211	0.44	23	19	25	34	15	27	17	39	22	10	29	27
212	0.48	20	16	23	31	13	24	14	39	19	10	27	24
214	0.56	19	15	20	31	12	22	14	39	17	10	27	22
215	0.60	17	14	19	24	11	20	13	28	15	10	24	20
217	0.68	15	12	16	24	10	18	10	22	13	5	24	18
218	0.72	14	11	16	24	10	17	9	17	13	5	22	17
220	0.80	12	9	13	24	8	15	7	11	11	5	20	15
221	0.84	12	9	13	24	8	15	7	11	11	5	20	15
224	0.96	9	7	11	21	5	11	5	11	9	5	17	12
227	1.08	7	5	8	17	4	9	4	11	6	5	11	9
228	1.12	6	5	7	10	2	7	4	6	6	5	9	8
231	1.24	5	4	6	10	2	7	3	6	4	5	7	7
232	1.28	4	3	5	7	2	6	3	6	4	0	5	6
235	1.40	3	2	4	3	1	4	3	6	3	0	4	5
236	1.44	3	2	3	3	1	3	2	6	2	0	4	4
240	1.60	2	1	2	0	1	2	1	6	2	0	2	3
245	1.80	1	1	1	0	0	2	1	0	1	0	1	2
250	2.00	1	1	1	0	0	2	1	0	1	0	0	1
251	2.04	1	0	1	0	0	1	1	0	0	0	0	1
257	2.28	0	0	0	0	0	1	0	0	0	0	0	1
258	2.32	0	0	0	0	0	1	0	0	0	0	0	0
266	2.64	0	0	0	0	0	1	0	0	0	0	0	0
277	3.08	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4: Mathematics Scale Score Distributions for the California Alternate Assessments—Total Group and Subgroups

Table 4.1 Mathematics, Grade Three, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
122	-3.12	79	79	79	82	76	79	74	67	80	84	82	79
124	-3.04	79	78	79	82	76	78	73	67	80	84	82	78
140	-2.40	78	78	78	82	75	78	71	67	79	84	82	77
142	-2.32	77	77	78	82	74	77	69	67	78	81	82	77
150	-2.00	77	77	77	82	74	77	69	67	78	81	82	76
152	-1.92	76	76	77	79	73	76	68	67	77	81	82	76
158	-1.68	76	75	76	79	73	75	68	67	77	78	82	76
159	-1.64	75	75	76	79	72	75	68	67	76	78	81	75
164	-1.44	75	74	75	79	72	75	68	67	76	78	81	74
165	-1.40	74	73	74	79	70	75	68	67	75	76	78	73
168	-1.28	73	72	74	79	70	73	67	67	74	76	78	72
170	-1.20	72	72	73	79	69	73	66	61	73	76	76	72
173	-1.08	72	70	72	79	68	72	64	61	72	73	76	70
174	-1.04	70	69	71	79	67	70	64	61	71	73	75	69
176	-0.96	69	68	70	79	65	69	64	56	70	73	74	68
178	-0.88	68	67	69	76	65	67	60	56	69	68	73	67
179	-0.84	67	65	68	76	64	66	58	56	68	68	73	66
181	-0.76	66	64	67	74	63	65	56	50	67	68	70	66
182	-0.72	64	62	65	74	61	63	55	50	65	68	69	64
183	-0.68	63	61	64	74	61	62	54	50	64	68	67	63
184	-0.64	63	61	64	74	60	62	54	50	64	68	67	63
185	-0.60	62	59	63	71	59	58	53	50	63	62	65	62
185	-0.60	61	59	63	71	59	58	53	50	62	62	64	62
186	-0.56	61	58	62	71	58	57	53	50	62	62	62	61
187	-0.52	60	58	62	71	58	57	53	50	61	62	62	61
188	-0.48	59	56	61	71	57	56	50	50	60	62	61	60
188	-0.48	59	55	60	71	57	55	50	50	59	62	61	60
189	-0.44	58	55	59	68	56	54	49	44	59	62	59	59
190	-0.40	57	54	59	68	56	53	49	44	58	62	59	57
191	-0.36	56	53	58	65	56	53	49	44	57	62	59	56
191	-0.36	55	52	57	65	54	51	49	39	56	62	59	55

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
191	-0.36	54	51	55	62	52	50	48	39	55	57	58	53
192	-0.32	53	50	55	62	51	50	48	39	54	57	56	53
193	-0.28	53	49	54	62	50	49	47	39	54	57	55	52
193	-0.28	51	48	53	62	49	48	45	39	52	51	54	50
194	-0.24	50	47	52	62	48	48	45	39	51	51	53	49
195	-0.20	49	45	50	59	46	47	45	39	50	49	51	47
195	-0.20	48	45	50	59	46	47	45	39	49	46	50	46
196	-0.16	48	45	50	59	46	47	45	39	49	46	50	46
196	-0.16	46	42	48	59	42	44	42	28	47	46	50	44
197	-0.12	44	40	45	59	40	41	38	28	45	43	48	42
198	-0.08	43	39	45	56	40	41	38	28	44	43	48	42
198	-0.08	41	36	43	53	37	39	37	28	42	38	43	40
199	-0.04	41	36	43	53	37	38	37	28	42	38	42	40
201	0.04	38	34	40	44	35	36	36	28	39	38	40	37
201	0.04	35	31	38	32	33	34	34	28	36	35	36	34
202	0.08	33	28	35	32	31	32	30	22	34	27	33	32
203	0.12	33	28	35	32	31	31	30	22	34	27	33	32
204	0.16	30	26	32	29	29	29	26	22	31	27	31	29
206	0.24	28	23	30	29	27	25	25	22	28	27	30	27
207	0.28	25	21	26	26	24	22	21	17	25	24	27	24
208	0.32	23	19	25	18	22	21	21	17	24	22	22	22
209	0.36	20	16	22	18	20	19	19	17	21	19	18	21
211	0.44	18	14	20	12	19	17	19	17	19	16	17	19
211	0.44	18	14	20	12	19	17	19	17	18	16	17	19
212	0.48	16	12	18	9	17	15	15	17	16	16	16	16
212	0.48	16	12	18	9	17	15	15	17	16	16	16	16
213	0.52	15	11	16	6	17	14	13	11	15	14	16	14
214	0.56	14	11	16	6	17	13	13	11	14	14	14	14
215	0.60	12	9	14	6	15	11	11	6	13	11	12	12
215	0.60	12	9	14	6	15	11	11	6	12	11	11	12
216	0.64	11	8	13	3	14	10	11	6	11	11	11	11
216	0.64	11	8	12	3	13	10	9	6	11	11	11	11
217	0.68	10	7	11	3	12	10	9	6	10	11	10	10
217	0.68	10	7	11	3	12	10	9	6	10	11	10	10
219	0.76	9	5	10	3	11	9	7	6	8	8	9	9
219	0.76	8	5	10	3	10	8	6	0	8	5	8	9
220	0.80	7	4	8	3	9	7	6	0	7	3	7	7
221	0.84	7	4	8	3	9	6	4	0	7	3	7	7
222	0.88	6	4	8	3	8	6	3	0	6	3	6	7

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
222	0.88	6	3	7	3	8	4	2	0	6	3	5	6
223	0.92	5	3	6	3	7	4	2	0	5	3	5	5
224	0.96	5	3	6	3	7	4	2	0	5	3	5	5
225	1.00	5	3	6	3	7	4	2	0	5	0	5	4
225	1.00	4	2	5	0	6	3	2	0	4	0	4	4
226	1.04	4	2	5	0	6	3	2	0	4	0	3	4
227	1.08	3	2	4	0	5	3	1	0	4	0	3	3
228	1.12	3	2	4	0	5	3	1	0	4	0	3	3
229	1.16	3	1	4	0	5	3	1	0	3	0	3	3
229	1.16	3	1	3	0	4	2	1	0	3	0	3	2
231	1.24	3	1	3	0	4	2	1	0	3	0	3	2
232	1.28	2	1	3	0	3	2	1	0	2	0	3	2
235	1.40	2	1	2	0	2	2	1	0	2	0	3	2
236	1.44	2	1	2	0	2	2	1	0	2	0	2	1
239	1.56	2	1	2	0	2	2	1	0	2	0	2	1
240	1.60	1	1	1	0	2	1	1	0	1	0	1	1
244	1.76	1	1	1	0	2	1	1	0	1	0	1	1
245	1.80	1	0	1	0	2	1	1	0	1	0	1	1
250	2.00	1	0	1	0	2	1	1	0	1	0	1	1
256	2.24	1	0	1	0	1	1	1	0	1	0	1	0
257	2.28	0	0	1	0	1	0	1	0	0	0	0	0
264	2.56	0	0	0	0	1	0	1	0	0	0	0	0
273	2.92	0	0	0	0	1	0	1	0	0	0	0	0
274	2.96	0	0	0	0	1	0	1	0	0	0	0	0
286	3.44	0	0	0	0	1	0	0	0	0	0	0	0
306	4.24	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.2 Mathematics, Grade Four, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
115	-3.40	82	80	84	81	77	80	83	88	84	74	81	82
117	-3.32	82	79	83	81	76	79	82	88	84	72	79	81
133	-2.68	81	78	83	78	76	79	81	88	83	70	79	80
135	-2.60	81	78	82	76	74	78	79	88	83	70	77	80
144	-2.24	80	77	81	73	72	77	78	88	82	70	76	79
146	-2.16	79	77	80	73	71	75	77	88	81	70	76	78
152	-1.92	79	76	80	73	70	74	77	88	81	70	75	78
154	-1.84	78	75	79	73	70	74	74	88	80	70	75	77
159	-1.64	78	75	79	73	69	73	74	88	80	70	74	77
160	-1.60	77	74	78	73	68	73	72	88	79	70	73	76
164	-1.44	76	73	78	73	66	72	72	88	79	68	73	76
165	-1.40	76	73	77	73	66	70	72	88	78	68	73	75
169	-1.24	75	72	76	73	65	70	71	88	77	68	73	74
170	-1.20	73	71	75	73	64	69	70	88	76	68	73	73
173	-1.08	73	70	74	73	63	68	68	88	75	68	73	72
174	-1.04	71	69	73	73	62	67	67	88	74	64	72	71
177	-0.92	70	67	71	70	60	65	65	85	73	60	70	69
178	-0.88	69	66	71	70	59	64	63	85	72	60	70	68
181	-0.76	68	65	70	70	59	63	63	85	71	58	70	67
181	-0.76	68	65	69	70	58	63	62	77	71	58	70	66
184	-0.64	66	63	67	70	55	61	62	77	69	56	67	65
185	-0.60	64	61	66	65	54	59	62	77	67	54	67	63
187	-0.52	64	60	65	62	54	58	58	77	66	52	66	62
188	-0.48	63	59	65	62	54	57	58	77	65	52	66	61
190	-0.40	61	58	63	59	53	55	55	77	64	52	64	59
190	-0.40	60	56	62	59	51	54	53	77	63	48	63	58
191	-0.36	59	56	61	59	51	54	52	77	62	48	63	58
192	-0.32	58	54	59	57	49	52	50	73	61	48	61	56
193	-0.28	57	54	59	54	48	52	49	73	60	48	61	56
193	-0.28	53	50	55	54	46	48	48	65	56	46	56	52
195	-0.20	53	49	55	54	46	47	48	65	55	46	56	52
195	-0.20	51	47	53	51	44	44	46	62	53	42	54	50
196	-0.16	51	47	53	51	44	44	46	62	53	42	54	49
198	-0.08	48	44	50	51	42	41	44	54	50	42	51	47
198	-0.08	45	41	47	46	38	37	40	50	48	42	46	45
199	-0.04	45	41	47	46	38	37	40	50	47	42	46	45
200	0.00	42	38	44	43	35	35	38	46	44	38	42	41
201	0.04	40	36	42	41	35	34	36	46	42	32	40	39
203	0.12	36	32	38	35	31	32	33	42	38	32	35	36
204	0.16	33	29	35	35	28	30	28	38	35	32	31	33

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity Two or more	White
205	0.20	30	26	32	32	24	27	26	38	32	28	30	29
206	0.24	27	24	29	32	22	25	23	35	29	26	27	27
207	0.28	25	21	26	32	20	23	21	27	26	22	25	24
208	0.32	22	19	23	27	18	21	19	23	23	18	22	22
209	0.36	20	17	21	24	15	20	17	19	21	18	20	20
210	0.40	18	16	19	22	14	18	15	15	19	16	18	17
211	0.44	18	16	19	22	14	18	15	15	18	16	18	17
212	0.48	16	14	17	19	12	16	13	15	16	14	17	16
213	0.52	14	12	15	19	11	14	11	15	14	14	15	14
214	0.56	12	11	13	16	9	13	8	15	13	14	13	12
215	0.60	11	10	12	14	8	11	5	15	12	14	12	12
216	0.64	11	10	12	14	8	11	5	15	12	14	12	12
216	0.64	10	9	11	11	7	10	4	15	10	12	12	10
217	0.68	9	8	10	11	6	9	3	12	9	12	12	9
218	0.72	9	7	9	11	6	9	3	12	9	10	11	9
219	0.76	8	7	8	11	5	8	3	12	8	10	9	9
219	0.76	8	7	8	11	5	7	3	12	8	10	9	9
220	0.80	7	6	7	11	5	7	3	12	7	10	8	8
221	0.84	7	6	7	11	5	7	3	12	7	10	8	7
221	0.84	6	5	6	11	4	6	3	12	6	10	8	6
222	0.88	5	5	6	11	4	6	3	12	5	8	7	6
223	0.92	5	4	5	11	3	6	3	8	5	8	7	6
224	0.96	5	4	5	11	3	5	3	8	4	8	7	6
224	0.96	4	4	5	11	3	5	3	8	4	6	6	5
225	1.00	4	4	5	11	3	5	3	8	4	6	6	5
226	1.04	4	3	4	11	2	5	2	4	3	6	6	4
227	1.08	4	3	4	11	2	5	2	4	3	6	5	4
227	1.08	3	3	4	11	2	5	2	4	3	4	5	4
229	1.16	3	3	3	8	2	4	1	4	3	4	4	4
230	1.20	3	3	3	8	1	3	1	4	2	2	3	3
232	1.28	2	2	2	8	1	3	1	0	2	2	3	3
233	1.32	2	2	2	8	1	3	1	0	2	2	3	3
234	1.36	2	2	2	5	1	3	1	0	2	2	2	2
236	1.44	2	2	2	3	1	3	1	0	2	2	1	2
237	1.48	1	1	1	3	1	3	0	0	1	2	1	1
239	1.56	1	1	1	3	1	2	0	0	1	2	1	1
241	1.64	1	1	1	3	1	2	0	0	1	2	1	1
243	1.72	1	1	1	3	1	2	0	0	1	2	1	1
245	1.80	1	1	1	3	1	1	0	0	1	2	1	1
247	1.88	1	0	1	0	1	1	0	0	1	2	1	1
250	2.00	1	0	1	0	1	1	0	0	1	0	1	1
252	2.08	1	0	1	0	1	1	0	0	1	0	1	0
255	2.20	0	0	0	0	1	0	0	0	0	0	1	0

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity Two or more	White
257	2.28	0	0	0	0	1	0	0	0	0	0	1	0
264	2.56	0	0	0	0	1	0	0	0	0	0	1	0
270	2.80	0	0	0	0	0	0	0	0	0	0	1	0
272	2.88	0	0	0	0	0	0	0	0	0	0	1	0
282	3.28	0	0	0	0	0	0	0	0	0	0	1	0
283	3.32	0	0	0	0	0	0	0	0	0	0	1	0
302	4.08	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.3 Mathematics, Grade Five, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
113	-3.48	81	81	81	89	75	83	80	77	82	72	81	80
116	-3.36	80	80	80	89	74	82	80	77	81	69	81	79
131	-2.76	80	79	80	89	73	81	79	77	81	69	81	79
134	-2.64	79	79	80	89	73	81	79	77	80	69	81	79
141	-2.36	79	79	79	89	72	80	79	70	80	69	81	78
145	-2.20	79	78	79	89	71	80	79	70	80	69	80	78
149	-2.04	78	78	78	89	71	80	77	67	79	69	80	77
154	-1.84	78	77	78	89	70	79	77	67	79	69	79	77
156	-1.76	78	77	78	89	70	79	75	67	79	69	78	77
160	-1.60	77	77	77	89	70	79	74	67	78	69	78	77
161	-1.56	77	76	77	89	69	79	74	67	78	69	75	76
165	-1.40	76	76	76	89	69	78	74	67	77	69	75	76
165	-1.40	75	75	75	86	68	78	73	67	76	63	75	75
169	-1.24	75	74	75	86	67	77	71	67	76	63	74	74
170	-1.20	74	74	74	86	66	77	71	67	75	63	74	74
173	-1.08	73	73	73	86	66	76	71	63	74	59	73	72
174	-1.04	73	72	73	86	66	76	71	63	74	59	73	72
175	-1.00	72	72	72	84	65	74	69	63	73	56	72	71
177	-0.92	72	72	72	84	65	73	69	63	73	56	72	71
178	-0.88	72	71	72	84	64	73	69	63	73	56	72	71
178	-0.88	71	71	71	84	64	73	68	63	73	56	71	70
180	-0.80	71	70	71	84	63	73	67	63	72	56	71	70
180	-0.80	71	70	71	82	63	72	67	63	72	56	70	69
181	-0.76	70	70	70	82	63	72	67	63	72	56	70	69
182	-0.72	70	69	70	80	62	72	67	60	71	56	69	68
183	-0.68	69	68	69	80	60	70	66	60	70	56	69	67
183	-0.68	68	67	68	80	60	69	66	60	69	53	69	67
184	-0.64	68	67	68	77	60	69	66	60	69	50	69	67
185	-0.60	66	66	67	77	58	68	66	60	68	50	68	65
186	-0.56	66	66	66	77	58	68	66	53	67	50	68	65
186	-0.56	65	64	65	77	57	66	62	53	66	50	67	63
187	-0.52	65	64	65	77	57	66	62	53	66	50	66	63
188	-0.48	63	62	64	77	55	63	60	50	65	50	65	62
188	-0.48	63	62	63	77	55	63	59	50	64	50	65	62
189	-0.44	63	62	63	77	55	63	59	50	64	50	65	62
190	-0.40	61	60	62	77	54	61	57	47	63	47	63	61
190	-0.40	61	60	62	77	54	60	57	47	63	47	63	61
192	-0.32	59	58	60	73	52	59	56	43	61	44	60	59
192	-0.32	57	55	59	68	50	56	55	43	58	44	57	58
193	-0.28	55	52	56	68	49	55	52	40	56	38	55	56

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
194	-0.24	55	52	56	68	48	54	52	40	56	38	55	56
195	-0.20	53	49	54	68	45	52	51	33	54	38	51	53
196	-0.16	50	47	52	66	42	50	49	33	51	34	49	50
197	-0.12	50	47	52	66	42	50	49	33	51	34	49	50
197	-0.12	47	44	48	64	38	47	45	33	48	31	46	47
198	-0.08	44	41	45	57	37	43	41	23	45	31	46	44
199	-0.04	44	41	45	57	37	43	41	23	45	31	46	44
200	0.00	41	38	42	57	33	41	39	23	42	31	43	41
201	0.04	39	36	40	55	31	39	39	23	39	28	40	39
202	0.08	35	32	36	48	28	35	31	23	35	28	39	36
204	0.16	32	30	33	45	26	33	28	23	33	28	33	33
204	0.16	29	28	30	43	23	29	25	23	30	28	31	30
206	0.24	27	25	28	39	21	26	24	23	28	28	25	27
207	0.28	24	22	25	34	18	23	23	23	25	22	22	24
208	0.32	22	20	23	32	16	20	21	20	23	19	19	21
209	0.36	19	17	20	30	15	17	19	17	20	19	18	18
211	0.44	17	15	18	25	13	15	16	13	18	19	17	17
212	0.48	15	13	16	23	12	13	12	13	16	16	14	15
212	0.48	15	13	16	23	12	13	12	13	16	16	14	15
213	0.52	14	12	15	23	10	13	12	13	15	9	10	14
214	0.56	11	9	12	18	8	10	11	7	12	9	9	13
215	0.60	11	9	12	18	8	10	11	7	11	9	9	13
215	0.60	10	8	11	18	7	9	10	7	10	9	9	11
216	0.64	9	8	10	18	7	8	9	7	9	9	9	11
217	0.68	9	7	10	16	7	7	9	7	9	9	7	10
217	0.68	8	6	9	16	7	7	7	3	8	9	7	10
218	0.72	8	6	9	16	7	7	7	3	8	9	7	10
219	0.76	7	5	8	16	6	6	4	3	7	9	7	9
219	0.76	7	5	8	16	6	6	4	3	7	9	7	8
220	0.80	6	4	7	16	5	5	4	3	6	9	6	8
221	0.84	6	4	7	16	5	5	4	3	6	9	6	7
222	0.88	6	4	7	16	5	5	4	3	5	9	6	7
222	0.88	5	4	6	16	5	5	4	3	5	9	6	7
223	0.92	5	3	5	14	5	4	1	3	4	9	5	6
223	0.92	5	3	5	14	5	4	1	3	4	9	5	6
224	0.96	5	3	5	14	5	4	1	3	4	9	5	5
225	1.00	4	3	5	14	5	4	1	3	4	6	5	5
226	1.04	4	2	4	9	5	3	1	3	3	6	5	5
227	1.08	4	2	4	9	5	3	1	3	3	6	5	5
228	1.12	3	2	4	7	4	3	1	3	3	6	4	4
230	1.20	3	2	4	7	4	2	1	3	2	6	4	4
231	1.24	3	1	3	2	4	2	1	3	2	6	4	3
233	1.32	2	1	3	2	3	2	1	3	2	6	3	3

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
235	1.40	2	1	2	2	2	2	1	3	2	6	1	2
237	1.48	2	1	2	2	2	2	1	3	1	6	1	2
239	1.56	1	1	2	2	1	2	1	3	1	6	1	2
241	1.64	1	0	2	2	1	1	0	3	1	6	0	1
244	1.76	1	0	2	2	1	1	0	3	1	3	0	1
245	1.80	1	0	1	2	1	1	0	0	1	3	0	1
249	1.96	1	0	1	2	1	1	0	0	1	3	0	1
250	2.00	1	0	1	2	1	1	0	0	1	3	0	1
255	2.20	1	0	1	2	1	0	0	0	1	3	0	1
256	2.24	1	0	1	2	0	0	0	0	1	3	0	1
262	2.48	0	0	1	0	0	0	0	0	1	3	0	0
263	2.52	0	0	0	0	0	0	0	0	0	0	0	0
272	2.88	0	0	0	0	0	0	0	0	0	0	0	0
284	3.36	0	0	0	0	0	0	0	0	0	0	0	0
303	4.12	0	0	0	0	0	0	0	0	0	0	0	0
304	4.16	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.4 Mathematics, Grade Six, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	Amerian Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
121	-3.16	82	80	82	82	80	83	84	62	83	79	79	79
127	-2.92	81	80	82	82	79	83	84	62	82	79	79	79
139	-2.44	81	80	81	82	78	82	84	57	82	79	79	78
145	-2.20	80	79	81	82	78	82	83	57	81	79	78	77
149	-2.04	79	78	80	77	77	82	83	57	80	79	73	77
155	-1.80	79	78	79	77	76	82	81	52	80	79	73	77
157	-1.72	78	77	79	74	76	81	80	52	79	76	72	76
163	-1.48	77	77	78	74	74	80	79	52	79	76	72	75
163	-1.48	77	76	77	74	74	78	78	52	78	76	72	74
168	-1.28	76	75	76	74	71	77	78	48	77	76	70	73
168	-1.28	74	73	75	72	71	76	76	48	76	76	69	72
172	-1.12	73	72	74	69	69	73	74	48	75	76	69	70
173	-1.08	71	70	72	69	67	71	71	48	73	76	66	68
176	-0.96	69	68	70	69	65	70	69	43	71	74	64	67
177	-0.92	67	67	68	67	62	66	67	43	69	74	64	65
179	-0.84	65	64	66	62	60	64	66	43	67	71	64	63
180	-0.80	64	62	64	59	58	62	64	43	66	71	64	61
182	-0.72	62	60	62	56	57	58	63	43	64	68	62	58
183	-0.68	60	59	61	56	55	56	62	43	63	68	61	57
185	-0.60	58	57	59	51	51	54	56	43	61	66	59	55
185	-0.60	58	57	59	51	51	54	54	43	61	66	59	55
186	-0.56	57	56	58	51	50	53	54	38	60	63	57	54
188	-0.48	55	54	56	49	49	51	52	33	58	58	55	53
188	-0.48	55	54	55	49	48	51	52	33	58	58	55	52
189	-0.44	54	54	55	49	48	49	51	33	57	55	54	51
190	-0.40	53	52	54	49	47	49	50	33	56	55	54	51
190	-0.40	53	52	54	49	47	48	50	33	56	55	54	51
191	-0.36	53	52	54	49	47	48	50	33	56	55	53	51
192	-0.32	51	50	52	49	45	46	47	29	54	55	50	49
193	-0.28	51	50	51	49	45	46	47	29	53	55	50	49
194	-0.24	51	49	51	49	45	46	46	29	53	55	50	49
195	-0.20	49	47	49	49	43	44	44	29	51	55	47	47
195	-0.20	47	46	48	49	42	43	44	24	50	53	47	46
196	-0.16	47	46	48	49	42	43	44	24	49	53	47	46
197	-0.12	45	44	46	49	40	40	43	24	47	47	45	44
197	-0.12	43	42	44	49	39	39	42	24	45	42	45	43
198	-0.08	43	42	44	49	39	39	42	24	45	39	45	43
199	-0.04	43	42	44	49	39	39	42	24	44	39	45	43
199	-0.04	41	39	41	49	36	36	39	24	42	39	40	40
200	0.00	41	39	41	49	36	36	39	24	42	39	40	40

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
200	0.00	38	37	39	49	36	33	38	24	40	37	37	37
201	0.04	38	37	39	49	36	32	38	24	40	37	37	37
202	0.08	35	34	36	49	35	30	33	24	37	34	34	33
202	0.08	33	32	33	46	34	29	33	19	34	29	32	31
203	0.12	33	32	33	46	34	28	33	19	34	29	32	31
204	0.16	30	29	31	44	31	26	30	19	31	29	28	28
205	0.20	27	26	28	38	28	24	28	19	28	26	24	26
206	0.24	25	24	26	36	25	22	27	14	26	24	21	24
207	0.28	23	21	24	33	23	20	26	14	24	24	19	22
208	0.32	21	19	22	33	21	17	25	14	22	21	17	20
210	0.40	19	18	20	28	20	15	24	14	19	21	17	19
210	0.40	17	16	18	28	18	13	22	10	18	21	16	17
210	0.40	16	14	16	23	16	11	19	10	16	21	15	15
212	0.48	15	14	16	23	16	11	19	10	16	21	15	15
212	0.48	14	13	15	23	14	10	15	10	15	21	15	14
214	0.56	13	12	13	23	12	9	14	10	13	21	13	13
214	0.56	12	10	12	23	11	8	12	10	12	21	13	11
215	0.60	11	9	11	21	10	7	10	10	11	21	12	11
215	0.60	11	9	11	21	10	7	10	10	11	21	12	11
216	0.64	11	9	11	21	10	7	10	10	11	21	12	11
216	0.64	10	8	10	21	10	6	10	10	10	21	11	9
217	0.68	9	8	9	18	9	5	9	10	9	18	10	9
217	0.68	9	8	9	18	9	5	9	10	9	18	10	9
218	0.72	9	8	9	18	9	5	9	10	9	18	9	9
218	0.72	8	7	9	18	9	5	9	10	8	16	7	8
219	0.76	8	6	8	18	8	5	8	5	8	13	7	8
219	0.76	8	6	8	18	8	5	8	5	8	13	7	8
220	0.80	7	6	8	15	8	5	7	5	7	13	7	7
220	0.80	7	6	7	15	8	5	7	5	7	13	5	7
221	0.84	6	5	7	15	7	5	7	5	6	13	5	6
221	0.84	6	5	7	15	7	5	7	5	6	13	5	6
222	0.88	6	5	6	15	6	5	7	5	6	11	5	5
223	0.92	5	4	6	13	5	5	6	5	5	8	5	5
224	0.96	5	4	6	13	4	5	5	0	5	5	5	5
224	0.96	5	3	5	13	4	4	5	0	5	5	5	4
225	1.00	4	3	5	13	3	4	5	0	4	5	5	4
226	1.04	4	3	4	10	3	3	4	0	4	5	4	4
226	1.04	4	3	4	10	3	3	4	0	4	5	4	4
228	1.12	3	2	4	10	2	3	3	0	4	5	4	4
229	1.16	3	2	4	10	2	2	3	0	3	5	4	3
229	1.16	3	2	4	10	2	2	3	0	3	5	4	3
230	1.20	3	2	3	10	2	2	3	0	3	5	4	3
232	1.28	3	2	3	8	1	2	3	0	3	3	3	3

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
233	1.32	2	2	3	8	1	2	3	0	2	3	2	3
235	1.40	2	2	2	8	1	2	3	0	2	3	2	3
236	1.44	2	1	2	8	1	2	3	0	2	3	2	2
238	1.52	2	1	2	8	1	2	2	0	2	3	2	2
239	1.56	1	1	2	8	1	1	2	0	1	3	0	2
241	1.64	1	1	1	8	1	1	2	0	1	3	0	1
242	1.68	1	1	1	5	0	1	2	0	1	0	0	1
245	1.80	1	1	1	5	0	1	2	0	1	0	0	1
246	1.84	1	0	1	5	0	1	2	0	1	0	0	0
250	2.00	1	0	1	3	0	0	2	0	1	0	0	0
255	2.20	1	0	1	0	0	0	1	0	1	0	0	0
261	2.44	0	0	0	0	0	0	0	0	1	0	0	0
269	2.76	0	0	0	0	0	0	0	0	0	0	0	0
280	3.20	0	0	0	0	0	0	0	0	0	0	0	0
299	3.96	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.5 Mathematics, Grade Seven, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	Amerian Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
114	-3.44	81	79	82	81	80	80	81	76	82	77	82	81
115	-3.40	81	79	82	81	79	80	81	76	82	77	82	81
132	-2.72	81	78	82	81	78	79	80	76	81	77	82	80
133	-2.68	80	77	81	81	78	78	80	76	81	73	81	79
142	-2.32	79	77	81	81	77	77	79	76	80	73	81	78
144	-2.24	79	76	80	81	77	77	78	76	80	70	81	78
150	-2.00	78	76	79	81	76	76	78	72	79	67	81	77
151	-1.96	77	75	79	81	75	76	78	72	79	67	79	76
156	-1.76	77	74	78	78	75	76	77	72	78	67	76	76
157	-1.72	76	74	78	78	75	74	77	72	77	67	76	75
160	-1.60	76	73	77	78	74	74	76	72	77	67	76	75
162	-1.52	75	73	77	78	73	73	75	72	77	67	76	74
164	-1.44	74	72	75	78	72	72	73	72	75	63	75	73
167	-1.32	73	71	75	78	71	70	72	72	75	60	74	73
168	-1.28	72	70	73	78	70	69	69	68	73	57	74	72
170	-1.20	71	68	73	78	70	68	69	68	72	57	74	71
171	-1.16	70	67	72	78	69	68	66	68	71	53	71	70
174	-1.04	70	67	71	78	68	67	66	68	71	53	71	70
174	-1.04	69	67	70	78	67	67	65	68	70	53	69	69
177	-0.92	69	66	70	78	66	66	64	68	70	53	68	69
177	-0.92	68	66	69	78	66	66	63	68	69	53	68	68
180	-0.80	68	65	69	78	66	66	63	68	69	53	68	68
180	-0.80	67	65	69	78	65	65	63	68	68	53	68	68
182	-0.72	67	65	68	75	65	65	62	68	68	53	67	67
182	-0.72	67	64	68	75	64	64	61	68	68	53	65	67
183	-0.68	66	64	68	75	64	64	61	68	67	53	65	67
183	-0.68	66	63	67	75	63	64	61	68	67	53	65	66
185	-0.60	66	63	67	75	63	63	61	68	67	53	65	66
185	-0.60	64	61	66	75	62	62	60	68	65	50	63	64
186	-0.56	64	61	65	75	62	61	60	68	65	50	63	64
187	-0.52	64	61	65	75	61	61	59	68	65	47	63	63
187	-0.52	62	60	63	75	60	59	58	68	64	43	62	62
188	-0.48	62	60	63	75	60	59	58	68	63	43	62	61
188	-0.48	61	59	62	72	59	57	57	64	63	43	60	60
189	-0.44	61	58	62	72	59	56	57	64	62	40	58	60
190	-0.40	60	58	62	72	59	56	57	64	62	40	58	60
191	-0.36	58	56	60	69	57	55	54	64	60	40	56	58
192	-0.32	57	55	58	69	55	52	53	60	59	40	56	56
193	-0.28	55	53	56	59	53	49	51	60	56	40	56	55
194	-0.24	53	51	54	50	50	47	47	60	55	37	54	53

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
195	-0.20	51	49	52	47	49	44	45	56	53	37	51	50
195	-0.20	49	46	50	47	46	43	43	52	51	37	50	47
196	-0.16	49	46	50	47	46	43	43	52	51	37	50	47
197	-0.12	46	44	47	44	44	40	42	52	48	37	49	45
198	-0.08	44	41	45	44	41	38	40	48	46	33	46	42
200	0.00	41	39	43	38	39	36	39	48	44	33	43	39
201	0.04	39	36	40	38	36	33	34	48	41	33	38	37
202	0.08	37	35	37	38	36	31	32	44	39	30	37	34
203	0.12	34	32	35	34	34	28	32	36	36	30	37	32
204	0.16	32	30	33	34	32	27	30	36	34	30	33	30
205	0.20	30	27	31	34	30	25	25	36	31	27	31	28
206	0.24	28	25	29	34	27	24	23	36	29	27	29	26
207	0.28	25	23	27	31	25	21	22	36	27	27	26	23
208	0.32	24	21	25	31	24	19	22	36	25	27	21	22
210	0.40	22	19	23	31	22	18	20	32	22	20	19	21
210	0.40	20	17	21	28	21	15	18	32	20	20	18	20
211	0.44	18	16	19	28	20	12	17	28	18	20	18	18
212	0.48	18	16	19	28	20	12	17	28	18	20	18	17
212	0.48	16	14	17	25	19	11	15	28	17	13	17	16
213	0.52	15	13	16	25	18	10	15	20	15	13	14	15
214	0.56	15	12	16	22	18	10	14	20	15	13	14	15
214	0.56	15	12	16	22	18	10	14	20	15	13	14	15
215	0.60	14	12	15	22	17	9	12	20	14	13	14	14
216	0.64	13	11	13	22	15	8	12	20	13	7	14	13
216	0.64	12	11	13	22	15	8	12	20	13	7	14	12
217	0.68	12	10	13	22	15	8	12	20	12	7	12	12
217	0.68	11	9	12	22	13	7	11	20	11	7	10	11
218	0.72	10	9	11	16	12	7	10	20	10	7	10	10
218	0.72	10	8	11	16	12	7	10	20	10	7	9	10
219	0.76	9	7	10	16	11	7	8	20	9	7	8	10
219	0.76	8	7	9	16	11	6	7	20	8	7	6	9
221	0.84	8	6	9	16	11	6	7	20	8	7	6	9
221	0.84	8	6	9	16	11	6	6	20	8	7	6	8
222	0.88	7	5	8	16	10	6	6	16	7	3	5	6
222	0.88	7	5	8	16	10	6	6	16	7	3	5	6
223	0.92	7	5	8	16	10	6	5	16	7	3	5	6
224	0.96	6	5	7	9	9	5	4	16	6	3	5	6
226	1.04	5	4	6	9	8	4	3	16	5	3	4	5
227	1.08	5	3	6	9	8	4	3	16	5	3	4	4
229	1.16	4	3	5	9	7	4	3	12	4	3	4	4
230	1.20	4	2	5	6	7	4	3	12	4	3	4	3
232	1.28	4	2	4	6	6	3	3	8	4	3	4	3
233	1.32	3	2	4	3	6	3	3	8	3	3	4	3

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
235	1.40	3	2	3	3	5	3	1	4	3	0	4	3
237	1.48	3	2	3	3	5	3	1	4	3	0	3	2
238	1.52	2	2	2	3	4	2	1	4	2	0	2	1
241	1.64	2	2	2	3	3	2	1	4	2	0	1	1
242	1.68	2	1	2	0	3	2	1	4	2	0	1	1
245	1.80	2	1	2	0	2	2	1	4	2	0	1	1
246	1.84	1	1	1	0	2	1	1	4	2	0	1	1
250	2.00	1	1	1	0	2	1	1	4	1	0	1	1
251	2.04	1	1	1	0	2	1	1	0	1	0	1	1
255	2.20	1	1	1	0	2	1	1	0	1	0	1	0
256	2.24	1	0	1	0	1	1	1	0	1	0	0	0
262	2.48	0	0	1	0	1	1	0	0	1	0	0	0
270	2.80	0	0	0	0	1	0	0	0	0	0	0	0
281	3.24	0	0	0	0	0	0	0	0	0	0	0	0
299	3.96	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.6 Mathematics, Grade Eight, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
119	-3.24	81	80	81	81	78	85	74	67	82	76	83	79
120	-3.20	80	79	81	81	77	84	74	67	82	76	80	78
136	-2.56	80	79	80	81	77	84	73	67	81	76	79	78
138	-2.48	79	78	80	81	75	83	70	67	81	76	78	78
147	-2.12	79	78	79	81	74	82	70	67	80	76	78	78
149	-2.04	78	77	79	81	74	81	69	67	79	76	78	77
155	-1.80	78	77	78	81	73	81	69	62	79	76	78	77
156	-1.76	77	76	77	81	71	79	69	57	78	76	78	76
161	-1.56	76	76	76	79	70	78	67	57	77	71	78	75
162	-1.52	74	74	75	77	69	76	66	57	75	71	78	74
166	-1.36	73	73	73	77	68	75	66	52	74	71	77	73
167	-1.32	72	72	72	74	66	74	65	52	73	71	74	72
170	-1.20	70	70	71	74	65	72	62	52	72	65	71	70
172	-1.12	69	68	69	72	63	70	61	52	70	65	70	69
174	-1.04	68	67	68	70	61	69	60	52	69	65	68	67
176	-0.96	67	66	67	65	60	67	60	48	68	65	67	66
177	-0.92	65	65	66	65	60	66	58	48	67	65	66	65
179	-0.84	65	65	65	65	59	65	57	48	66	65	66	64
180	-0.80	64	64	64	65	59	65	57	48	66	65	65	64
182	-0.72	64	63	64	60	58	64	56	48	65	65	65	63
183	-0.68	63	63	63	60	57	64	56	48	65	65	64	63
184	-0.64	63	62	63	60	57	64	56	48	64	65	63	62
185	-0.60	62	62	63	60	57	64	56	48	64	65	63	62
186	-0.56	62	61	62	60	57	63	55	48	63	65	63	62
186	-0.56	62	61	62	60	57	63	55	48	63	65	63	61
187	-0.52	61	61	62	60	56	62	54	48	63	59	62	61
188	-0.48	61	60	61	60	55	61	53	48	62	59	62	61
189	-0.44	60	60	61	60	55	61	53	48	62	59	62	60
189	-0.44	60	59	60	60	55	61	52	48	61	59	61	59
190	-0.40	60	59	60	60	55	60	51	48	61	59	61	59
191	-0.36	58	57	58	60	54	58	49	48	59	59	58	57
191	-0.36	57	56	57	58	53	56	48	48	58	59	58	56
192	-0.32	56	55	57	58	53	56	48	48	58	59	58	56
193	-0.28	55	54	55	58	52	54	46	48	56	59	57	54
194	-0.24	54	53	55	58	51	53	46	48	55	59	57	54
194	-0.24	52	51	53	56	49	51	44	38	53	59	56	53
195	-0.20	50	49	51	56	47	50	41	33	51	59	55	51
196	-0.16	50	49	51	56	47	50	41	33	51	59	55	51
196	-0.16	47	46	48	56	44	47	40	33	48	53	54	48
197	-0.12	47	46	48	56	44	47	40	33	48	53	54	48

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
198	-0.08	45	44	46	56	42	44	38	33	46	47	52	46
199	-0.04	42	41	43	56	39	41	36	24	42	47	49	42
201	0.04	39	38	39	56	35	38	32	24	39	47	45	39
201	0.04	36	35	37	51	32	35	32	24	37	47	42	37
202	0.08	34	33	34	47	30	34	30	24	34	41	39	35
203	0.12	34	33	34	47	30	34	30	24	34	41	39	35
204	0.16	31	30	32	40	27	30	25	19	32	41	38	33
205	0.20	29	27	30	37	25	28	24	19	29	35	35	31
206	0.24	27	25	27	37	23	25	22	19	27	18	34	28
207	0.28	24	23	25	33	22	22	19	14	24	18	29	26
208	0.32	22	21	23	33	20	21	17	14	22	18	27	24
210	0.40	20	19	20	26	17	20	15	14	19	6	26	22
210	0.40	18	17	19	26	16	18	14	14	18	6	21	20
212	0.48	17	15	18	23	15	17	14	10	16	6	18	19
213	0.52	15	14	16	23	13	16	11	5	15	6	18	17
214	0.56	14	13	14	16	11	13	11	5	13	0	17	15
215	0.60	12	11	13	14	10	11	11	5	12	0	17	14
216	0.64	11	10	12	14	9	10	8	0	11	0	17	13
217	0.68	11	10	12	14	9	10	8	0	11	0	17	13
217	0.68	10	9	11	14	9	8	7	0	10	0	16	12
218	0.72	9	8	9	9	8	7	5	0	9	0	13	11
219	0.76	9	8	9	9	8	7	5	0	9	0	13	11
220	0.80	8	7	9	9	7	6	5	0	8	0	12	9
221	0.84	7	6	8	7	6	5	4	0	7	0	11	9
222	0.88	6	5	7	7	5	5	4	0	6	0	11	8
222	0.88	6	5	7	7	5	5	3	0	6	0	10	7
223	0.92	5	5	6	7	4	5	2	0	5	0	9	6
224	0.96	5	4	5	7	4	5	2	0	5	0	7	6
225	1.00	4	3	5	5	4	5	2	0	4	0	7	5
225	1.00	4	3	5	5	3	5	2	0	4	0	7	5
226	1.04	4	3	4	5	3	5	2	0	4	0	6	4
227	1.08	3	3	4	5	3	5	2	0	3	0	6	4
228	1.12	3	3	3	5	3	4	2	0	3	0	6	3
229	1.16	3	2	3	5	3	4	2	0	3	0	6	3
230	1.20	2	2	3	0	3	3	2	0	2	0	2	3
232	1.28	2	2	2	0	3	3	2	0	2	0	1	3
233	1.32	2	1	2	0	2	2	2	0	1	0	1	2
235	1.40	2	1	2	0	2	2	2	0	1	0	1	2
236	1.44	1	1	1	0	2	1	1	0	1	0	1	1
238	1.52	1	1	1	0	2	1	1	0	1	0	1	1
239	1.56	1	1	1	0	1	0	1	0	1	0	0	1
242	1.68	1	1	1	0	1	0	1	0	1	0	0	1

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
243	1.72	1	0	1	0	1	0	1	0	1	0	0	1
246	1.84	0	0	1	0	1	0	1	0	1	0	0	0
250	2.00	0	0	0	0	0	0	1	0	0	0	0	0
251	2.04	0	0	0	0	0	0	0	0	0	0	0	0
255	2.20	0	0	0	0	0	0	0	0	0	0	0	0
260	2.40	0	0	0	0	0	0	0	0	0	0	0	0
267	2.68	0	0	0	0	0	0	0	0	0	0	0	0
275	3.00	0	0	0	0	0	0	0	0	0	0	0	0
286	3.44	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.7 Mathematics, Grade Eleven, Percent At and Above Scale Score

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
50	-6.00	100	100	100	100	100	100	100	100	100	100	100	100
116	-3.36	85	83	86	93	81	87	83	88	84	67	88	86
118	-3.28	84	82	85	93	80	87	82	88	84	67	88	86
134	-2.64	83	82	84	93	79	86	81	88	83	67	88	85
136	-2.56	83	81	84	93	78	86	81	88	83	67	88	84
144	-2.24	82	81	83	93	77	85	79	88	82	67	88	84
147	-2.12	82	80	82	93	77	85	77	88	81	67	88	83
152	-1.92	81	80	82	93	77	84	77	88	80	67	88	83
155	-1.80	80	79	81	93	75	83	77	82	80	67	87	82
158	-1.68	80	78	81	93	74	82	75	82	79	67	87	82
161	-1.56	79	77	80	93	74	82	75	82	79	62	85	81
163	-1.48	78	76	79	93	72	82	75	82	78	62	82	79
166	-1.36	77	75	78	93	72	80	75	82	77	62	82	78
167	-1.32	76	74	77	93	71	79	73	82	76	62	82	77
170	-1.20	75	73	77	93	70	78	73	82	75	62	81	76
171	-1.16	74	72	76	93	69	76	72	82	74	62	80	75
174	-1.04	73	71	74	93	68	75	69	82	73	62	79	74
174	-1.04	72	70	73	93	66	75	69	82	72	57	76	73
177	-0.92	71	69	73	90	65	74	68	82	71	57	75	73
178	-0.88	70	68	72	87	64	74	65	82	70	57	73	72
179	-0.84	70	67	71	83	63	73	64	82	70	57	73	71
181	-0.76	70	67	71	83	63	73	64	82	69	57	73	71
181	-0.76	69	66	70	83	63	72	63	82	69	57	73	70
182	-0.72	68	65	70	83	62	71	62	82	68	57	73	69
183	-0.68	68	65	69	83	62	70	62	82	68	57	72	69
183	-0.68	68	65	69	83	62	70	62	82	68	57	72	69
184	-0.64	67	64	69	83	62	70	62	82	67	57	72	68
186	-0.56	67	64	69	83	62	70	62	82	67	57	71	68
186	-0.56	66	63	68	83	60	70	61	82	66	57	71	67
186	-0.56	65	62	67	83	59	69	61	76	65	57	71	66
186	-0.56	65	61	67	83	59	68	61	76	65	57	71	65
189	-0.44	65	61	66	83	58	68	61	76	65	57	71	65
189	-0.44	63	61	65	83	57	67	58	71	64	57	68	64
189	-0.44	62	59	64	80	54	66	55	71	62	57	68	62
189	-0.44	62	59	64	80	54	66	55	71	62	57	68	62
191	-0.36	62	59	64	80	54	66	55	71	62	57	68	62
191	-0.36	60	56	61	73	51	64	54	53	60	57	67	60
192	-0.32	59	56	61	73	51	64	54	53	60	57	67	60
193	-0.28	57	53	59	73	49	61	52	53	57	52	65	57
194	-0.24	57	53	59	73	49	61	52	53	57	52	65	57
194	-0.24	55	51	57	70	48	59	50	53	54	48	62	55

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
195	-0.20	55	51	56	70	48	59	50	53	54	48	62	55
197	-0.12	52	48	54	70	44	57	48	47	52	43	61	53
197	-0.12	49	45	51	63	41	54	45	47	49	38	58	50
199	-0.04	46	42	49	53	40	51	43	41	46	33	52	47
200	0.00	44	39	46	50	37	49	39	41	43	29	48	44
201	0.04	40	36	43	47	35	48	37	29	40	29	46	42
202	0.08	40	36	43	47	35	48	37	29	40	29	46	42
202	0.08	37	33	39	40	31	43	33	29	36	29	45	39
204	0.16	34	31	36	40	30	40	32	29	33	29	41	36
205	0.20	32	28	33	40	29	37	28	29	30	19	35	34
207	0.28	28	25	30	40	26	34	24	24	27	14	33	31
207	0.28	26	23	27	40	22	31	20	24	24	10	32	28
209	0.36	23	21	25	33	20	29	20	24	22	10	27	26
209	0.36	21	18	22	30	18	28	19	24	19	5	24	22
210	0.40	21	18	22	30	17	28	19	24	19	5	22	22
211	0.44	19	16	20	27	17	26	16	24	18	5	19	20
211	0.44	19	16	20	27	17	26	16	24	18	5	19	20
212	0.48	19	16	20	27	17	26	15	24	17	5	18	20
212	0.48	17	14	18	27	15	24	13	24	16	5	16	18
213	0.52	15	12	16	23	14	20	12	24	14	5	14	16
214	0.56	15	12	16	23	14	20	12	24	14	5	14	16
214	0.56	13	10	15	20	13	19	11	18	12	5	14	14
215	0.60	13	10	15	20	13	18	10	18	12	5	14	14
216	0.64	12	8	14	20	12	17	8	18	11	5	13	13
217	0.68	12	8	14	20	11	17	8	18	10	5	13	13
217	0.68	11	7	12	17	10	16	8	12	10	5	13	11
218	0.72	9	7	11	13	9	13	8	6	9	5	12	10
219	0.76	9	6	11	13	9	13	8	6	8	5	12	10
219	0.76	8	6	10	10	9	11	6	6	8	5	12	9
220	0.80	8	5	9	10	9	10	6	6	7	5	11	9
221	0.84	7	5	9	10	9	9	6	6	7	5	11	8
222	0.88	7	5	8	10	8	8	6	6	6	0	11	8
222	0.88	7	4	8	10	8	8	6	6	6	0	8	7
223	0.92	6	4	7	10	8	7	6	6	6	0	8	7
224	0.96	6	4	7	10	7	7	6	6	5	0	8	7
225	1.00	5	3	7	7	6	6	5	6	5	0	6	6
227	1.08	5	3	6	7	6	6	5	6	4	0	4	5
229	1.16	4	2	5	7	5	5	5	6	4	0	2	4
230	1.20	4	2	5	7	5	5	4	6	3	0	2	4
232	1.28	3	2	4	7	5	5	3	6	3	0	2	4
233	1.32	3	2	3	7	5	4	2	6	2	0	1	3
236	1.44	3	1	3	7	4	4	2	6	2	0	1	3
237	1.48	2	1	3	3	4	3	1	6	2	0	1	2

Scale score	Theta score	Total	Female	Male	American Indian	Asian	African American	Filipino	Hawaiian	Hispanic	Ethnicity unknown	Ethnicity: Two or more	White
241	1.64	2	1	2	3	4	3	1	0	2	0	1	2
246	1.84	2	1	2	3	2	2	0	0	1	0	1	2
251	2.04	1	1	1	3	2	1	0	0	1	0	0	2
258	2.32	1	0	1	3	1	1	0	0	1	0	0	1
266	2.64	0	0	1	0	1	0	0	0	0	0	0	1
277	3.08	0	0	0	0	1	0	0	0	0	0	0	0
278	3.12	0	0	0	0	0	0	0	0	0	0	0	0
296	3.84	0	0	0	0	0	0	0	0	0	0	0	0
350	6.00	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 5: Attachments

Attachment A: Panelist Invitation to Participate and Pre-Workshop Assignment

English Language Arts/Literacy Invitation for Grades Three Through Eight

California Alternate Assessments (CAAs) Panelist Preparation for the Standard-Setting Workshop English Language Arts/Literacy Grades Three through Eight August 22–25, 2016

Thank you once again for agreeing to serve as a member of a panel to recommend threshold scores for the California Alternate Assessments (CAAs). You have been selected because you have the relevant expertise to make the necessary recommendations; you know the California Core Content Connectors, you are familiar with the CAAs, and you are working with students who are taking the CAAs. You have been assigned to a panel that will work on two grades in the range of grades three through eight. Each panel includes educators representative of CA educators working in the grades of focus for the panel, as well as adjacent grades; this broad representation of experience allows thinking about learning progressions across grades. Your panel assignment is at the top of your note-taking form.

During the standard-setting workshop, you will participate in training, and practice the procedure, which we will use to develop threshold score recommendations, or the minimum test scores that define performance levels: Level 1—Alternate, Level 2—Alternate, and Level 3—Alternate. You will work with your fellow panelists to describe the knowledge and skills necessary for students at these levels. Educational Testing Service facilitators, including standard-setting, testing, and content specialists, will guide you through the process. Representatives of the California Department of Education (CDE) will be present to answer any policy questions you may have as you work. The results of the workshop will be presented to the CDE as your recommendations, and the California State Board of Education will make the final decision concerning the threshold scores.

For this process, it is important that you come to the workshop prepared to discuss the performance expectations for the CAAs. For guidance on the performance expectations at each level, we have attached the performance level descriptors (PLDs) for you to read. The [CAAs Blueprint for Mathematics](#) may also be helpful to you since it describes the assessment.

In order to help you prepare for the workshop, we have attached a note-taking form. The task described on the note-taking form will help you structure your thoughts as you read through the PLDs. Please focus on the grades listed at the top of the note-taking form. Please bring these notes with you to the standard-setting workshop. You do not have to bring the PLDs or the blueprint; we will have printed PLDs and copies of the test books for your reference at the workshop. As a part of the standard-setting process, we will look at the items and tasks in the test and consider what the student has to know and be able to do to answer each item correctly.

English Language Arts/Literacy Note-Taking Form for Grades Three and Four

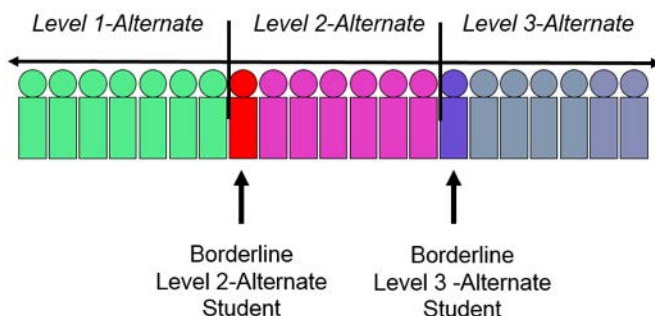
CALIFORNIA ALTERNATE ASSESSMENTS FOR ENGLISH LANGUAGE ARTS/LITERACY: GRADES THREE AND FOUR

PREWORKSHOP NOTE-TAKING TASK

The California Alternate Assessments’ performance level descriptors (PLDs) reflect expected performance for a typical student at each performance level. Figure 1, students’ performance represents students ordered according to their knowledge in a grade and content area (e.g., grade five English language arts/literacy or grade seven mathematics). Three performance levels are indicated. In each level, the student at the beginning of a level is the **borderline student**. The Level 2—Alternate borderline student (in red) has slightly more knowledge than the highest-performing student in the Level 1—Alternate (in light green).

In this assignment, you will focus on the Level 2—Alternate borderline student and the Level 3—Alternate borderline student (in dark purple). We will discuss these students at the workshop. The task on the following pages will allow you to become familiar with the PLDs and with the types of comparisons we will be making at the standard-setting workshop.

Borderline Student Definitions



Copyright © 2013 by Educational Testing Service. All rights reserved.

Figure 2. Borderline Student Definitions

Task

Write down what you think is important; your notes will not be exhaustive.

GRADE 3 California Alternate Assessments (CAAs) for
English Language Arts/Literacy (ELA)
Level 2—Alternate Borderline Student

For a student who *just barely* meets the requirements for **Level 2**:

<p>1. What does the student know and what can the student do relative to the performance level descriptors (PLDs)?</p>	
<p>2. What might the student not be able to do?</p>	
<p>3. How would you distinguish the student from the highest-performing Level 1—Alternate student?</p>	

GRADE 3 CAAs for ELA Level 3—Alternate Borderline Student

For a student who *just barely* meets the requirements for **Level 3**:

<p>1. What does the student know and what can the student do relative to the PLDs?</p>	
<p>2. What might the student not be able to do?</p>	
<p>3. How would you distinguish the student from the highest-performing Level 2—Alternate student?</p>	

GRADE 4 CAAs for ELA Level 2—Alternate Borderline Student

For a student who *just barely* meets the requirements for **Level 2**:

<p>1. What does the student know and what can the student do relative to the PLDs?</p>	
<p>2. What might the student not be able to do?</p>	
<p>3. How would you distinguish the student from the highest-performing Level 1—Alternate student?</p>	

GRADE 4 CAAs for ELA Level 3—Alternate Borderline Student

For a student who *just barely* meets the requirements for **Level 3**:

<p>1. What does the student know and what can the student do relative to the PLDs?</p>	
<p>2. What might the student not be able to do?</p>	
<p>3. How would you distinguish the student from the highest-performing Level 2—Alternate student?</p>	

Attachment B: Final Borderline Student Definitions

ELA Grade 3

Borderline Level 2—Alternate Student

The Grade 3 ELA Borderline Level 2—Alternate student can . . .

1. Apply one story element to respond to a literal question.
2. Identify central idea and supporting detail from text or media (literary or informational).
3. Recognize and investigate two key elements of a literary text.
4. Use context clues to expand vocabulary.
5. Choose a title/label for given information.
6. Match early sight words presented orally to print.
7. Choose a missing word to complete the sentence relevant to meaning.

Borderline Level 3—Alternate Student

The Grade 3 ELA Borderline Level 3—Alternate student can . . .

1. Use literary elements from the text to make meaningful connections.
2. Locate key details in text to support central idea.
3. Apply evidence from context clues or visual resources to make inferences.
4. Organize data to create meaningful categories.
5. Use more than one type of text feature to respond to a question.
6. Match grade level oral word to printed word.
7. Use context to select the appropriate meanings of a word.

ELA Grade 4

Borderline Level 2—Alternate Student

The Grade 4 ELA Borderline Level 2—Alternate student can . . .

1. Choose an appropriate concluding statement for a passage.
2. Extract information from a variety of resources – media, graphs, charts – to answer questions.
3. Select a detail to answer text related questions relating to story elements and main idea.
4. Read and build comprehension of academic and frequently-used words and vocabulary using context clues (e.g. oral and visual supports).

Borderline Level 3—Alternate Student

The Grade 4 ELA Borderline Level 3—Alternate student can . . .

1. List one specific detail to support or determine main idea.
2. Select details that link to character traits or attributes.
3. Analyze a variety of text features to answer multi-step questions.
4. Use resources—media, graphs, charts—to support and express their responses.
5. Distinguish various levels of word meaning at grade level.
6. Begin to read domain specific and grade level vocabulary.
7. Generate a concluding statement to indicate understanding.

ELA Grade 5

Borderline Level 2—Alternate Student

The Grade 5 ELA Borderline Level 2—Alternate student can . . .

1. Recall and/or identify details in a literary text and explain one detail.
2. Identify an event from the beginning and from the end of a literary text.
3. When given the topic or main idea of an informational text, identify one related detail.
4. Compare and contrast differences between two pieces of information.
5. Identify how informational text is organized in moderate text complexity (e.g., descriptive pictures, four complete sentences or a paragraph).
6. Choose one detail to support an author's point.
7. Use context as a clue to determine the meaning of unknown and multi-meaning words.
8. Place items in a provided organizer to identify the relationship between given items.
9. Given a purpose, choose the appropriate text from a selection of descriptive sentences.

Borderline Level 3—Alternate Student

The Grade 5 ELA Borderline Level 3—Alternate student can . . .

1. Identify one example in a literary text.
2. Determine summary elements within a literary text (two of the three: beginning, middle, or end).
3. Compare literary elements (e.g.: characters, setting, or events).
4. Identify the main idea in an informational text.
5. Compare and contrast how events, ideas, concepts, or information between two texts of high text complexity (e.g.: supplemental pictures, multi-syllabic words, three or more paragraphs) are presented in an informational text.
6. Identify one piece of evidence from a text of moderate text complexity to support author's point in an informational text.
7. Use context as a clue to determine the correct meaning of unknown words, multi-meaning words, or phrases of moderate text complexity.
8. Given ideas, concepts and information, use definitions and/or classifications to organize writing.
9. Produce an appropriate idea, on topic, that can be a concluding statement.

ELA Grade 6

Borderline Level 2—Alternate Student

The Grade 6 ELA Borderline Level 2—Alternate student can . . .

1. Identify one detail to explain a literary text reference in texts of low complexity.
2. Use one literary text based detail to describe characters in a text of moderate complexity.
3. Summarize the beginning or end of a story within a text of low complexity.
4. Identify the topic from two different informational text sources of similar formats (texts of low complexity).
5. Given the main idea in an informational text, provide a simple summary at low text complexity (two details or examples).
6. Identify one detail that supports an event or individual from an informational text at low text complexity.
7. When given the author’s purpose in an informational text (low text complexity), can choose a claim to support it.
8. Use provided context clues to determine the meaning of unknown and multi-meaning words in texts of low text complexity.
9. Use general academic words from provided word bank.
10. Identify transition words and phrases within text.
11. Identify text appropriate to the purpose.

Borderline Level 3—Alternate Student

The Grade 6 ELA Borderline Level 3—Alternate student can . . .

1. Use a detail or example to explain text references in literary texts of moderate complexity (e.g. two to three paragraphs with two to three sentences).
2. Use two details to support a conclusion about characters from a text of high complexity (e.g. multiple paragraphs, four+ sentences, and fewer pictures).
3. Summarize details from within the beginning, middle, and end of literary text of moderate text complexity.
4. Simple summaries (moderate text complexity: e.g. list, T-chart, graphic organizer) from two sources presented in different formats (no expectations of paragraphs or final form).
5. Summarize informational or literary text of moderate text complexity.
6. Use two details from an informational text at high text complexity to explain a key individual event or idea.
7. Determine if a claim/argument is supported by provided choices of text based evidence (moderate text complexity).
8. Use context, as a clue, to support their use of general academic words at moderate text complexity.

9. Identify and use provided words, phrases, or claims to signal transition.
10. Produce an appropriate product based on a task, purpose, or audience.

ELA Grade 7

Borderline Level 2—Alternate Student

The Grade 7 ELA Borderline Level 2—Alternate student can . . .

1. Identify a detail that leads to an inference or conclusion.
2. Provide at least one piece of evidence leading to the theme or central idea.
3. Begin to show cause and effect in relationships between people and events.
4. Identify one similarity OR difference between contents of two texts.
5. Start to summarize a text.
6. Demonstrate meaning of at least one unknown word by providing examples using the word in two contexts.
7. Identify a word OR phrase to match a visual image.
8. Select/identify a phrase to match a purpose.
9. Begin to identify a claim.
10. Begin to add information to a text.

Borderline Level 3—Alternate Student

The Grade 7 ELA Borderline Level 3—Alternate student can . . .

1. Begin to list/show key points, vocabulary.
2. Explain/describe a claim.
3. Compare OR contrast ideas.
4. Generate adjectives to write for a purpose.
5. Demonstrate meaning of unknown words by providing examples using like meaning words in different contexts.
6. Sequence and explain an event in a plot.
7. Begin to make an inference.
8. Add at least one piece of information supporting the text or purpose.

ELA Grade 11

Borderline Level 2—Alternate Student

The Grade 11 ELA Borderline Level 2—Alternate student can . . .

1. Recognize a plot or summary within a literary text.
2. Identify parts of the plot of a literary text.
3. Identify the summary or the conclusion of an informational text.
4. Identify one key detail to support the central idea of an informational text.
5. Select a word or phrase that identifies the author’s point of view in an informational text.
6. Identify different media sources or formats.
7. Use context as a clue to select the meaning of a word or phrase.
8. Identify a word used to describe a person, place, thing, action, or event in a text.
9. Select information that does belong in a paragraph based on an organizational structure.
10. Identify a descriptive sentence or a concluding statement.
11. Select one fact, definition, detail, or quotation relevant to the topic.

Borderline Level 3—Alternate Student

The Grade 11 ELA Borderline Level 3—Alternate student can . . .

1. Use one piece of evidence to support conclusions or summaries within a text.
2. Explain one detail of the literary text in the overall plot.
3. Use evidence to support summaries of an informational text.
4. Define one key detail to support a central idea of an informational text.
5. Identify one piece of evidence that supports a point of view or purpose in an informational text.
6. Integrate one source of information from different media or formats to address a question or solve a problem.
7. Use context as a clue to explain the meaning of a word or phrase.
8. Define the descriptive words used within the text.
9. Select or generate facts or details that appropriately support the specific task, purpose or audience.
10. Select the organizational structure to logically support the paragraph.

Mathematics Grade 3

Borderline Level 2—Alternate Student

The Grade 3 Mathematics Borderline Level 2—Alternate student . . .

1. Requires concrete representation to solve multiplication problems.
2. Identifies simple multiplication patterns that grows by 2s and 5s.
3. Can do single-digit one-step word problems (+,-).
4. Can use place value to round to the tens with visual representation.
5. Can identify the numerator of a given representation.
6. Uses = to compare representations of two fractions with the same denominator.
7. Can transfer a picture to a graph (two variables, quantities less than five).
8. Given a rectangle with pre-given squares, can count squares with an area of less than 25.
9. Can identify rectangles that are divided into two equal parts (same dimensions).

Borderline Level 3—Alternate Student


The Grade 3 Mathematics Borderline Level 3—Alternate student . . .

1. Requires limited context, pictures, and manipulatives.
2. Can do multistep (two-step) problems (+,-) and have solutions over 50.
3. Given a word problem, can differentiate between +, -, x.
4. Has limited generalization skills.
5. Can do multiplication, but not multistep
6. Can do single-step, single-digit multiplication, including word problems.
7. Can round to 10s and 100s.
8. Can identify and compare fractions that match common representations (i.e., $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$).
9. Can compare $<$, $>$, = fractions with common denominators.
10. Can measure the area by counting columns and rows.
11. Can transfer data from a short list (two to three variables) to a graph (quantities less than 10).
12. Can partition rectangles into two equal parts by themselves.

Mathematics Grade 4

Borderline Level 2—Alternate Student

The Grade 4 Mathematics Borderline Level 2—Alternate student . . .

1. Can determine how many objects go equally into groups (up to 3), given the total # of objects .

2. Can solve multiplicative comparisons with an unknown using a one-digit number, including word problems.
3. Can solve one-step $+$, $-$, or \times with visual support up to 25, including word problems.
4. Can use place value to round to the nearest 10.
5. Can compare representations of two fractions.
6. Given pictures, can transfer data to bar graph.
7. Given squares, can identify area.
8. Can compute the perimeter or area when all numbers are given.
9. Uses sides and angles to identify the two-dimensional (2D) shape that does not belong in a group.
10. Can identify a circle, a triangle, and a rectangle.

Borderline Level 3—Alternate Student

The Grade 4 Mathematics Borderline Level 3—Alternate student . . .

1. When given manipulatives/pictures and the total number of objects, can divide objects (not > 10).
2. Can solve two-step addition/subtraction and one-step multiplication with solutions over 50.
3. Can solve multiplicative comparisons with low two-digit numbers (10 or 11 \times single digit unknown).
4. Can use place value to round numbers to the nearest 100 or 1000 with representations.
5. Can identify equivalent fractions without representations.
6. When given visual representation, can determine equivalent fractions.
7. Has knowledge of what a numerator/denominator represents.
8. Can compare fractions with different denominators and uses $=$, $>$, or $<$ with limited representation.
9. Can solve word problems using perimeter **OR** area where no changes occur.
10. Can organize a graph, using the given data.
11. Can classify 2D simple shapes up to four sides.

Mathematics Grade 5

Borderline Level 2—Alternate Student

The Grade 5 Mathematics Borderline Level 2—Alternate student can . . .

1. Given visual supports, make 1 quantitative comparison between two data sets.
2. Given visual supports, identify place values to the hundredths place.
3. Given visual supports, round decimals to the tenths place to the nearest whole number (or round whole numbers).

4. Given visual supports, identify solutions, in word problems, up to 50.
5. Given visual supports, solve given addition and subtraction decimal problems, which are lined up vertically and do not use regrouping.
6. Given visual supports, solve addition problems involving fractions with like denominators.
7. Identify value increases with a multiplier of 2 or more (3×2), (3×3).
8. Given visual supports, identify converted standard lengths 12 in. = 1 foot).
9. Given visual supports, convert standard measurements using 1 (example: 1 week = 7 days).
10. Given visual supports, identify a given point as an intersection of lines.

Borderline Level 3—Alternate Student

The Grade 5 Mathematics Borderline Level 3—Alternate student can . . .

1. Make one quantitative comparison between two graphs of the same type (example: what is the same?).
2. Identify place value in two forms (example: \$1.26 = Where is the hundredths place?).
3. Round decimals, with numbers no larger than to the thousandths place, to the nearest whole number, given a support for each place set (example: visual supports, labels, or highlighting).
4. Solve word problems with single digit multiplication and division using visual supports.
5. Independently solve (solve means that they have to set up the problem themselves) a one-step problem (implies no regrouping), with decimals (to the tenths), using addition or subtraction using fractions, with like denominators, select the correct answer to a word problem using multiplication.
6. Determine the product increase or decreases, given a visual representation and key words, within a word problem (example: based on a multiplier).
7. Convert standard lengths of measurement, given a visual representation.
8. Plot a point when given visual cues.

Mathematics Grade 6

Borderline Level 2—Alternate Student

The Grade 6 Mathematics Borderline Level 2—Alternate student can . . .

1. Given visual support, identify a ratio between two quantities, for example ($1 : x$), up to 10.
2. Given visual support, select a percentage, when the given quantity is a factor of 100.
3. Given visual support, identify a solution to a one-step addition problem using a simple decimal (simple = to the tenths with no regrouping).

4. Given visual support, solve a one-step addition problem using fractions with like denominators.
5. Identify a representation of negative numbers on a number line.
6. Given visual support (e.g., number line), solve real world, single-step, linear equations requiring addition (example: $3 + a = 7$).
7. Given visual support, solve a one-step real world problem using familiar unit rates where no value exceeds 25 (examples: quarters, yards, feet, inches).
8. Solve a word problem with graphic support which has up to two digits addition and one digit subtraction with no regrouping for either.
9. Given visual support, using a labeled grid, begin to do multiplication.
10. Given visual support, identify the mean or spread of a set of data which contains three single-digit values.

Borderline Level 3—Alternate Student

The Grade 6 Mathematics Borderline Level 3—Alternate student can . . .

1. Given a visual support, describe a ratio between 2 quantities for example (1 : x), up to 10.
2. Given visual support, calculate a percentage of a quantity at a rate per 100.
3. Given visual support, solve a one-step multiplication problem, using fractions with factors not exceeding 9.
4. Identify positive values on a number line.
5. Given visual support, solve real world single-step linear problems using multiplication with products up to 100.
6. Given visual support, solve a one-step, real world measurement problem, involving unit rates, where one value can exceed 50 but is less than 100.
7. Given visual support, solve a word problem using multiplication, (example: $2 \times 100 = 200$).
8. Given visual support, solve addition and subtraction problems with regrouping (up to two digits).
9. Determine the area of a rectangle, with no grid, given the formula for area ($A = L \times W$).
10. Identify the spread of a number set which contains at least five values.

Mathematics Grade 7

Borderline Level 2—Alternate Student

The Grade 7 Mathematics Borderline Level 2—Alternate student can . . .

1. Understand that a model can be used to represent a ratio.
2. Begin to recognize a proportional relationship in a table/graph.
3. Solve problems involving simple percentages under 100.
4. Extend a rate or proportion with a given ratio that is 12 or less.

5. Begin to understand the rules of multiplying positive and negative numbers.
6. Begin to understand the rules of dividing positive and negative numbers.
7. Identify the variables in an equation without visuals.
8. Use a simplified formula to approximate the circumference of a circle.
9. Begin to use formulas to compute the surface area of a rectangular prism.
10. Begin use graphs to make inferences between two samples or populations.

Borderline Level 3—Alternate Student

The Grade 7 Mathematics Borderline Level 2—Alternate student can . . .

1. Begin to read a table or graph to determine proportionality.
2. Begin to use a table or graph to compare and contrast relationships between quantities.
3. Solve simple two-step percentage problems of real world situations using addition and subtraction.
4. Begin solving ratios in values that are greater than 12 and less than 20.
5. Begin solving multiplication problems with positive/negative whole numbers more than 20.
6. Begin solving division problems with positive/negative whole numbers more than 20.
7. Begin to identify a variable equation containing an inequality.
8. Use the value of pi as 3.14.
9. Understanding the differences between a rectangular prism and a triangular prism.
10. Identify what samples are equal/same between two populations.

Mathematics Grade 8

Borderline Level 2—Alternate Student

The Grade 8 Mathematics Borderline Level 2—Alternate student can . . .

1. Begin to select placement of decimals on a number line within whole number increments.
2. Begin to recognize negative relationships between two variables.
3. Begin to identify the solution of a linear equation containing one variable.
4. Begin to identify the positive slope of a linear graph.
5. Begin to use figures to identify congruency or similarity.
6. Begin to understand that when you change an attribute, it affects the area, surface area, and/or volume.
7. Begin to match a formula to find the volume given a figure.
8. Begin to understand associations between data points on a graph.
9. Begin to identify a graph that contains bivariate data.

Borderline Level 3—Alternate Student

The Grade 8 Mathematics Borderline Level 3—Alternate student can . . .

1. Begin to use decimals when placing a number on a number line in one half number increments.
2. Begin to plot data on a line graph.
3. Begin to solve simple linear equations containing one variable.
4. Begin to identify a linear graph/equation with a negative slope.
5. Begin to identify congruency between irregular shapes.
6. Begin to understand the changes in area, surface area, and volume when two attributes are changed.
7. Begin to use formulas to solve the volume of a three-dimensional (3D) figure.
8. Begin to plot data on a graph.
9. Begin to understand bivariate data among data points on a graph.

Mathematics Grade 11**Borderline Level 2—Alternate Student**

The Grade 11 Mathematics Borderline Level 2—Alternate student can . . .

1. Using a visual representation of an array, simplify an expression that includes an exponent of two with single digit base
2. Identify, from a picture, the linear representation of a real world situation (using only addition).
3. Solve a one-variable problem using an equation with values not exceeding 100.
4. Solve a linear equation to find a missing attribute of a figure given the area, using whole number dimensions less than 10.
5. Identify the linear representation of a data set.
6. Identify an extension of a graph and make a prediction from a simple data table or graph (simple meaning increment sizes of 5 or less). The prediction should be between the given values of no more than a single increment past the data.
7. Identify the hypotenuse, sides on right angle of a right triangle and determine if two triangles are congruent, similar, or neither.
8. Calculate the range of a set of data.
9. Identify one missing label on a graph using a given data table.

Borderline Level 3—Alternate Student

The Grade 11 Mathematics Borderline Level 3—Alternate student can . . .

1. Solve real-world measurement problems with a unit conversion chart.
2. Simplify an expression that includes an exponent of 3, with a single-digit base 2 through 5.
3. Complete a partial linear equation that represents a real-world situation using addition and subtraction with one missing variable.
4. When given the net, solve a linear equation to find a missing attribute given the surface area.
5. Solve a linear equation to find a missing attribute given the volume.
6. Make predictions from data tables and graphs to solve problems when predictions are not more than two increments from the given information.
7. Select one point of information to complete the graphical linear representation of a real-world situation.
8. Solve a one-variable word problem using an equation or a linear graphical representation with values exceeding 1000.
9. Determine if given figures (e.g., 3D, cone, rectangular prism) are similar or not.
10. Calculate the mean, median, mode, and range of a set of five single-digit numbers.
11. Plot up to two single-digit numbers on dot plots or box plot.

Attachment C: Item Maps

The passage title (ELA items) were deleted to protect the security of the CAA. The Standard Setting Scale (SS Scale) column represents relative item difficulty and is not the CAA score reporting scale.

Table 5.C.1 ELA, Grade Three, Item Map

Ordered Item Number	ETS Item Code	Passage Title	Pass Book Page	DFA Version	DFA Page Number	Item Score	SS Scale
1	1299	Passage	4	2	21	1+	134
2	1044	~	~	1	8	1+	147
3	861	~	~	2	18	1+	150
4	1045	~	~	2	10	1+	155
5	1024	~	~	1	16	1+	158
6	1167	Passage	5	1	20	1+	158
7	1103	Passage	2	1	28	1+	171
8	1098	Passage	2	1	27	1+	172
9	856	~	~	1	14	1+	172
10	1103	Passage	2	1	28	2+	174
11	1006	Passage	8	1	36	1+	178
12	1244	~	~	1	24	1	181
13	509	Passage	3	1	12	1	183
14	1101	Passage	2	1	28	1	183
15	1246	~	~	1	38	1+	183
16	604	~	~	1	29	1	183
17	605	~	~	1	29	1	186
18	973	Passage	1	1	10	1	187
19	852	~	~	1	35	1	188
20	498	Passage	9	1	22	1	189
21	978	~	~	1	18	1+	191
22	974	Passage	1	1	11	1+	191
23	609	~	~	2	9	1	192
24	504	Passage	3	1	13	1	193
25	978	~	~	1	18	2+	196
26	974	Passage	1	1	11	2+	197
27	1042	Passage	6	1	32	1+	197
28	507	Passage	3	1	13	1	198
29	602	~	~	1	29	1	198
30	1459	Passage	8	1	37	1	200
31	972	Passage	1	1	10	1	201
32	858	Passage	4	2	20	1+	203

Key

DFA: Directions for Administration

ETS: Educational Testing Service

SS Scale: Standard Setting Scale

Ordered Item Number	ETS Item Code	Passage Title	Pass Book Page	DFA Version	DFA Page Number	Item Score	SS Scale
33	1044	~	~	1	8	2+	206
34	1246	~	~	1	38	2+	206
35	1010	~	~	1	34	1	206
36	855	~	~	1	33	1	207
37	946	~	~	1	25	1+	207
38	471	Passage	7	2	26	1	207
39	998	Passage	9	1	22	1+	208
40	984	Passage	8	1	37	1+	209
41	1042	Passage	6	1	32	2+	211
42	849	Passage	5	1	19	1	212
43	472	Passage	7	2	26	1	212
44	856	~	~	1	14	2+	213
45	945	~	~	1	25	1	214
46	858	Passage	4	2	20	2+	215
47	984	Passage	8	1	37	2+	217
48	861	~	~	2	18	2+	218
49	611	~	~	2	10	1	218
50	946	~	~	1	25	2+	220
51	877	Passage	6	1	33	1	220
52	496	Passage	9	1	22	1	222
53	963	~	~	1	23	1+	222
54	1299	Passage	4	2	21	2+	223
55	1011	Passage	7	2	26	1+	224
56	998	Passage	9	1	22	2+	224
57	947	~	~	1	39	1	225
58	876	Passage	6	1	33	1	230
59	1024	~	~	1	16	2+	232
60	1252	~	~	1	39	1+	233
61	860	Passage	4	2	21	1	234
62	850	Passage	5	1	20	1	235
63	1247	~	~	2	24	1	235
64	1045	~	~	2	10	2+	236
65	1167	Passage	5	1	20	2+	241
66	1011	Passage	7	2	26	2+	243
67	963	~	~	1	23	2+	243
68	1098	Passage	2	1	27	2+	249
69	993	~	~	1	15	1	250

Key

DFA: Directions for Administration ETS: Educational Testing Service SS Scale: Standard Setting Scale

Ordered Item Number	ETS Item Code	Passage Title	Pass Book Page	DFA Version	DFA Page Number	Item Score	SS Scale
70	1006	Passage	8	1	36	2+	255
71	1252	~	~	1	39	2+	263

Table 5.C.2 Mathematics, Grade Three, Item Map

Ordered Item Number	ETS Item Code	DFA Version	DFA Page Number	Item Score	SS Scale
1	377	1	47	1	192
2	430	1	49	1+	193
3	441	1	63	1+	196
4	1306	1	45	1	197
5	433	1	43	1+	198
6	442	1	69	1+	198
7	406	1	62	1	198
8	441	1	63	2+	199
9	417	1	67	1+	200
10	442	1	69	2+	203
11	425	1	65	1	203
12	423	1	66	1	203
13	438	1	62	1+	204
14	415	1	64	1	207
15	409	1	42	1	208
16	432	1	55	1+	208
17	432	1	55	2+	209
18	433	1	43	2+	209
19	434	1	48	1+	209
20	438	1	62	2+	209
21	430	1	49	2+	210
22	447	2	55	1+	211
23	445	1	57	1+	211
24	437	2	46	1+	213
25	436	1	59	1+	214
26	439	1	73	1+	215
27	413	1	50	1	215

Key

DFA: Directions for Administration ETS: Educational Testing Service SS Scale: Standard Setting Scale

Ordered Item Number	ETS Item Code	DFA Version	DFA Page Number	Item Score	SS Scale
28	422	2	55	1	218
29	437	2	46	2+	218
30	445	1	57	2+	219
31	416	1	70	1	219
32	444	2	56	1+	219
33	419	1	71	1	219
34	436	1	59	2+	221
35	439	1	73	2+	221
36	434	1	48	2+	221
37	389	1	54	1	222
38	450	1	47	1	223
39	447	2	55	2+	225
40	391	2	61	1	225
41	443	1	75	1+	226
42	444	2	56	2+	226
43	448	1	53	1	227
44	410	2	53	1	230
45	412	1	45	1	230
46	400	1	50	1	231
47	399	2	62	1	231
48	420	2	45	1	232
49	411	1	61	1	233
50	443	1	75	2+	234
51	388	2	46	1	234
52	426	1	71	1	237
53	418	1	77	1	241
54	431	2	61	1	241
55	421	1	78	1	243
56	378	1	54	1	245
57	398	1	51	1	246
58	414	1	56	1	247
59	407	1	67	1	254

Key

DFA: Directions for Administration ETS: Educational Testing Service SS Scale: Standard Setting Scale

Ordered Item Number	ETS Item Code	DFA Version	DFA Page Number	Item Score	SS Scale
60	417	1	67	2+	261
61	427	1	77	1	264
62	401	1	55	1	278
63	408	1	73	1	285
64	424	2	60	1	288
65	379	1	58	1	290

Key

DFA: Directions for Administration ETS: Educational Testing Service SS Scale: Standard Setting Scale

Attachment D: Evaluation Forms

Initial Evaluation

2016 California Alternate Assessments (CAA) Standard Setting

Initial Evaluation of the Training on the Bookmark Procedure

The purpose of this form is to obtain feedback about the training for the Bookmark process.

Please indicate the degree to which you agree with each statement using the scale given.

Please choose only one response for each statement.

Statement	Ratings			
	Strongly Disagree	Disagree	Agree	Strongly Agree
I understand the purpose of this workshop.	SD	D	A	SA
The large-group facilitator explained things clearly.	SD	D	A	SA
The panel facilitator explained things clearly.	SD	D	A	SA
I understand what is meant by the borderline student.	SD	D	A	SA
I understand the purpose of the PLDs in this process.	SD	D	A	SA
I understand what the Ordered Item Booklet (OIB) is.	SD	D	A	SA
I understand the information presented in the item map (e.g., relative item difficulty).	SD	D	A	SA
I understand that I will consider the information presented in the impact data (% of students in each performance level) in my judgments.	SD	D	A	SA
The training in the method seems adequate to give me the information I need to complete my assignment.	SD	D	A	SA
I am ready to make my first bookmark judgment.	SD	D	A	SA

ID #

--	--

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

(Continued on Back)

Figure 3. 2016 CAA Standard-Setting Initial Evaluation Form—Front

If you checked "Disagree" or "Strongly Disagree" for any of the statements on the previous page, please tell us what we need to do to complete the preparation for placing the first bookmark.

Have you participated in a standard-setting workshop before today?

No Yes

By signing this form, I state that I am ready to proceed with the process.

Signature

Date

Figure 4. 2016 CAA Standard-Setting Initial Evaluation Form—Back

Final Evaluation

2016 California Alternate Assessments (CAA) Standard Setting

Final Evaluation Form

The purpose of the final evaluation form is to obtain your feedback about the standard setting process overall. Your feedback will provide a basis for evaluating the training, methods and materials in the bookmark process, and potentially, making modifications to the process in the future. Your responses will be anonymous; no individuals will be identified.

ID #

--	--

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

How influential was each of the following in placing your bookmark?

Statement	Ratings		
	Not at All Influential	Somewhat Influential	Very Influential
The Performance Level Descriptors	(N)	(S)	(V)
Borderline student definitions	(N)	(S)	(V)
My perception of the difficulty of the items	(N)	(S)	(V)
Table discussions	(N)	(S)	(V)
Room-level discussions	(N)	(S)	(V)
Bookmark placements of other panelists	(N)	(S)	(V)
Impact information (% of students in each performance level)	(N)	(S)	(V)
My sense of what students need to know at each performance level	(N)	(S)	(V)

Figure 5. CAA Standard-Setting Final Evaluation Form—Front

The next two questions require a response for each CAA test on which you worked.

For the **LOWER GRADE** test bookmark placements

How confident are you in your final judgments?

Statement	Ratings		
	Not at All Confident	Somewhat Confident	Very Confident
Level 2 bookmark placement	(N)	(S)	(V)
Level 3 bookmark placement	(N)	(S)	(V)

Do you believe that the final recommended bookmark placements are appropriate?

Statement	Ratings		
	Too Low	About Right	Too High
Level 2 bookmark placement	(N)	(S)	(V)
Level 3 bookmark placement	(N)	(S)	(V)

For the **HIGHER GRADE** test bookmark placements

How confident are you in your final judgments?

Statement	Ratings		
	Not at All Confident	Somewhat Confident	Very Confident
Level 2 bookmark placement	(N)	(S)	(V)
Level 3 bookmark placement	(N)	(S)	(V)

Do you believe that the final recommended bookmark placements are appropriate?

Statement	Ratings		
	Too Low	About Right	Too High
Level 2 bookmark placement	(N)	(S)	(V)
Level 3 bookmark placement	(N)	(S)	(V)

Figure 6. CAA Standard-Setting Final Evaluation Form—Back

Attachment E: Nondisclosure Agreement Form

Test security for California Assessment of Student Performance and Progress (CAASPP) is of the utmost importance, and it is the California Department of Education's obligation to ensure the security of all test materials. The nature and content of any test, test item, proposed or draft test item, or other secure assessment material, including but not limited to the specific language or the subject of test items or proposed or draft test items and any art such as drawings, graphs, tables and sketches, must not be divulged.

By signing below, you acknowledge and agree that the CAASPP test materials are highly secure and that the unauthorized disclosure of any test materials associated with CAASPP could result in substantial monetary and nonmonetary costs to the State to replace the test and materials. You agree that your access to CAASPP test items, proposed or draft test items, or any other test materials is only for the purpose of review as charged by your role as a member of this panel. You agree not to reproduce the tests or any questions within them, directly or indirectly, and not to reveal the nature or content of the test or test items to any other person other than those participating in this meeting.

You further acknowledge and agree that these materials are being provided only for use at this meeting, and you agree to return these materials to the California Department of Education staff member or Contractor staff member as soon as possible after meeting completion.

I understand that the use of the California Alternate Assessment Standard Setting materials for English Language Arts/Literacy and Mathematics, grades three through eight and grade eleven materials (e.g. items, stimuli, reading passage book, ordered item booklet, and 2015–16 CAA operational field test) cannot be posted publicly or sold and may only be reproduced, by employees of California local educational agencies, for the sole purpose of improving teaching practices and student learning. The materials included in this training set contain information copyrighted by the Regents of the University of California, the California Department of Education, and/or independent publishers.

Signature

Print Name

Affiliation/Organization

Date