SAT® Suite of Assessments Technical Manual Appendixes

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APPENDIX 1

Overview

Table A-1.1: Benefits Offered by Each Test Within the SAT Suite of Assessments

Assessment	Benefits
SAT	**Learning, not memorizing.** The SAT requires students to have a stronger command of fewer topics. Rote memorization and "cramming" to learn vocabulary that they soon forget isn't a part of the new SAT. Students are asked to apply deep understanding of the skills and concepts most important for college and career readiness.
	Connection to classroom learning and experience. Students will encounter an assessment that is closely connected to their classroom experience, one that rewards focused work and the development of valuable, durable knowledge, skills, and understandings. The questions and approaches will be more familiar to them because they are modeled on the best work of classroom teachers.
	Rights-only scoring. Scoring for the new test is based only on questions that students answer correctly. There is no point deduction for wrong answers, which will encourage students to give the best answer for every question rather than skip questions about which they are unsure.
	Free resources for practice and review. Students have access to free resources that introduce them to the SAT and give them a chance to enhance their preparation with targeted review and authentic practice. The College Board is partnering with Khan Academy® to provide free practice materials that are personalized, interactive, and engaging to help students prepare for the new SAT.
PSAT/NMSQT and PSAT 10	**Prepare students for college and career.** The PSAT/NMSQT and the PSAT 10 provide a mid-course measure of readiness during high school. Assessments in the SAT Suite of Assessments focus on the things that matter the most for college and career success and provide multiple opportunities for students to demonstrate their skills and make improvements.
	Link to online, personalized pathway for practice through Khan Academy. The College Board has partnered with Khan Academy to provide free, personalized online practice. Students can link their College Board and Khan Academy accounts so that their actual assessment results in the SAT Suite power targeted learning plans that students can use to learn more about and practice the skills that need improvement for college and career readiness.
	Identify students who have potential to succeed in AP courses. AP Potential is an online tool that identifies PSAT/NMSQT and PSAT 10 students who are likely to succeed in Advanced Placement courses, helping educators expand access to rigorous courses.
	Provide entry into scholarship programs. The PSAT/NMSQT is the qualifying test for entry to the National Merit® Scholarship Program, conducted by National Merit Scholarship Corporation (NMSC). Students who take the PSAT/NMSQT (typically in the fall of their junior year) and meet all other program entry requirements will be eligible to enter NMSC's competitions.

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Assessment	Benefits
	Both the PSAT/NMSQT and the PSAT 10 offer opportunities in other scholarship and recognition programs, such as the National Hispanic Recognition Program. Beginning with the class of 2015, the following organizations have used data from the PSAT/NMSQT to enhance their recruitment efforts and reach a more representative group of eligible students from high schools across the country: ▪ American Indian Graduate Center ▪ Asian & Pacific Islander American Scholarship Fund ▪ Hispanic Scholarship Fund ▪ Jack Kent Cooke Foundation ▪ United Negro College Fund (UNCF)
	Collect and use valuable data. Extensive data and reporting resources help educators identify skill gaps and improve instruction from their students' PSAT/NMSQT and PSAT 10 results. The electronic Student Data File (available as an optional report for PSAT/NMSQT and PSAT 10) allows educators to manage student assessment data to inform instruction and educational decisions, such as student placement in courses and intervention groups.
	Identify skills for improvement. The score reports give students comprehensive, personalized feedback on their test performance, allowing them to see which questions they answered incorrectly and which academic skills they should work to improve.
	Build a college-going culture. Offering the SAT Suite of Assessments to all students helps create a college-going culture. The online college and career planning tools provided with the PSAT/NMSQT and the PSAT 10 spark college-going aspirations and introduce students to opportunities available after high school.
	Support college and career planning. The College Board offers personalized college and career planning tools that allow students to search online for colleges, explore majors and careers, and more.
PSAT 8/9	**Sets a baseline for measuring student progress.** Educators and students will be able to measure growth toward college and career readiness by establishing a performance baseline with scores on PSAT 8/9.
	Prepares students for the PSAT/NMSQT, the PSAT 10, and the SAT. Assessments in the SAT Suite of Assessments focus on the things that matter the most for college and career success and provide multiple opportunities for students to demonstrate their skills and make improvements.
	Collects and uses valuable data. Extensive data and reporting resources help educators identify skill gaps and improve instruction from the PSAT 8/9 results of their students. The electronic Student Data File allows educators to manage student assessment data to inform instruction and educational decisions, such as student placement in courses and intervention groups.
	Identifies skills for improvement. The score reports give students comprehensive, personalized feedback on their test performance, allowing them to see which questions they answered incorrectly and which academic skills they should work to improve.
	Builds a college-going culture. Offering the SAT Suite of Assessments to all students helps create a college-going culture, sparking college-going discussions and introducing all students to opportunities available after high school.
	Supports college and career planning. The College Board offers personalized college and career planning tools that allow students to search online for colleges, explore majors and careers, and more.

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Table A-1.2: Comparison of the Content Specifications for the Reading Test Across the SAT Suite of Assessments

	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
Word Count (standard, six-character words)	4 "short" passages (500–625 words per passage)	3 "short" passages (500–625 words per passage)	2 "short" passages (500–625 words per passage)
	1 "long" passage (626–750 words per passage)	2 "long" passages (626–750 words per passage)	3 "long" passages (626–750 words per passage)
Total Number of Items (multiple choice [4 options], passage based)	42 items	47 items	52 items
Passage Types			
Single passage (500–750 words each)	4 passages	4 passages	4 passages
Paired passage (500–750 words total)	1 pair	1 pair	1 pair
Passage Contents			
U.S. and World Literature	1 passage	1 passage	1 passage
	2 passages	2 passages	2 passages
History/Social Studies	OR	OR	OR
	1 passage and 1 pair	1 passage and 1 pair	1 passage and 1 pair
	2 passages	2 passages	2 passages
Science	OR	OR	OR
	1 passage and 1 pair	1 passage and 1 pair	1 passage and 1 pair
Text Complexity			
Grades 6–8	3 passages/pair	0 passages/pair	0 passages/pair
Grades 9–10	2 passages/pair	3 passages/pair	1 passage/pair
Grades 11-CCR	0 passages/pair	2 passage/pair	3 passages/pairs
Early postsecondary	0 passages/pair	0 passages/pair	1 passage/pair
Graphical data representations	Somewhat challenging	Somewhat challenging to challenging	Somewhat challenging to challenging

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	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
Item Counts by Passage Content			
U.S. and World Literature	8 items per passage	9 items per passage	10 items per passage
History/Social Studies	8–9 items per passage	9–10 items per passage	10–11 items per passage
Science	8–9 items per passage	9–10 items per passage	10–11 items per passage
Subscore and Cross-Test Score Contributions			
Subscores			
Words in Context (Reading, Writing and Language)	10 items (2 per unit)	10 items (2 per unit)	10 items (2 per unit)
Cross-Test Scores			
Command of Evidence (Reading, Writing and Language)	10 items (2 per unit)	10 items (2 per unit)	10 items (2 per unit)
Analysis in History/Social Studies (Reading, Writing and Language, Math)	17 items (all History/Social Studies items)	19 items (all History/ Social Studies items)	21 items (all History/ Social Studies items)
Analysis in Science (Reading, Writing and Language, Math)	17 items (all Science items)	19 items (all Science items)	21 items (all Science items)
Time Limits	55 minutes	60 minutes	65 minutes

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Table A-1.3: Comparison of the Content Specifications for the Writing and Language Test Across the SAT Suite of Assessments

	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
Word Count (standard, six-character words)	(350–400 words per passage)	(400–450 words per passage)	(400–450 words per passage)
Total Number of Items (multiple choice [4 options], passage based)	40	44	44
Passage Contents (in alphabetical order)			
Careers	10 items	11 items	11 items
History/Social Studies	10 items	11 items	11 items
Humanities	10 items	11 items	11 items
Science	10 items	11 items	11 items
Text Types			
Argument	1 passage	1–2 passages	1–2 passages
Informative/explanatory	2 passages	1–2 passages	1–2 passages
Nonfiction narrative	1 passage	1 passage	1 passage
Text Complexity			
Grades 6–8	2 passages	0 passages	0 passage
Grades 9–10	2 passages	2 passages	1 passage
Grades 11–CCR	0 passages	2 passages	2 passages
Early postsecondary	0 passages	0 passages	1 passage
Graphical data representation	Basic	Basic to somewhat challenging	Basic to somewhat challenging
Subscore and Cross-Test Score Contributions			
Subscores			
Expression of Ideas	24 items (6 per unit)	24 items (6 per unit)	24 items (6 per unit)
Standard English Conventions	16 items (4 per unit)	20 items (5 per unit)	20 items (5 per unit)
Words in Context (Reading, Writing and Language)	8 items (2 per unit)	8 items (2 per unit)	8 items (2 per unit)
Command of Evidence (Reading, Writing and Language)	8 items (2 per unit)	8 items (2 per unit)	8 items (2 per unit)

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	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
Cross-Test Scores			
Analysis in History/Social Studies (Reading, Writing and Language, Math)	6 items (all History/ Social Studies Expression of Ideas items)	6 items (all History/Social Studies Expression of Ideas items)	6 items (all History/ Social Studies Expression of Ideas items)
Analysis in Science (Reading, Writing and Language, Math)	6 items (all Science Expression of Ideas items)	6 items (all Science Expression of Ideas items)	6 items (all Science Expression of Ideas items)
Time Limits	30 minutes	35 minutes	35 minutes

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Table A-1.4: Comparison of the Content Specifications for the Math Test Across the SAT Suite of Assessments

	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
Total Number of Items	**38**	**48**	**58**
Multiple-choice (4 options) items	31	40	45
Student-produced response items	7	8	13
Content Subscores	**38**	**48**	**58**
Heart of Algebra	16	16	19
Problem Solving and Data Analysis	16	16	17
Passport to Advanced Math	6	14	16
Additional Topics in Math	0	2	6
Cross-Test Subscore Contributions (Math, Reading, Writing and Language)	**12**	**14**	**16**
Analysis in Science	6	7	8
Analysis in History/Social Studies	6	7	8
Calculator Portion			
Total Number of Items	**25**	**31**	**38**
Multiple-choice (4 options) items	21	27	30
Student-produced response items	4	4	8
Content Subscores	**25**	**31**	**38**
Heart of Algebra	8	8	11
Problem Solving and Data Analysis	16	16	17
Passport to Advanced Math	1	6	7
Additional Topics in Math	0	1	3
Time Allocated	40 minutes	45 minutes	55 minutes

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	PSAT 8/9	PSAT/NMSQT, PSAT 10	SAT
No-Calculator Portion			
Total Items	**13**	**17**	**20**
Multiple-choice (4 options) items	10	13	15
Student-produced response items	3	4	5
Content Subscores	**13**	**17**	**20**
Heart of Algebra	8	8	8
Passport to Advanced Math	5	8	9
Additional Topics in Math	0	1	3
Time Allocated	20 minutes	25 minutes	25 minutes

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Table A-1.5: Content Specifications of the Optional Essay for SAT

Optional Essay—SAT only	SAT
Total Items	**1**
Constructed Response:	
Tests reading, analysis, and writing skills	
Students produce a written analysis of a provided source text	
Content Subscores	
Reading	2–8*
Analysis	2–8*
Writing	2–8*
	*Combined score of two raters, each scoring on a 1–4 scale
Time Allocated	50 minutes

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APPENDIX 2

Fairness

There is currently no appendix content associated with Chapter 2. As the SAT Suite of Assessments continues to be administered, any appendix materials that are created will be placed in the relevant appendixes, in keeping with the technical manual's role as a "living document."

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APPENDIX 3

Test Development Procedures

Table A-3.1: SAT Reading Test Content Specifications

	Number	Percentage of Test
Time Allotted	65 minutes	
Passage Word Count	3,250 words total from 4 single passages and 1 pair; 500–750 words per passage or paired set	
Total Questions	52 questions	100%
Multiple choice (4 options)		100%
Passage based		100%
Contribution of Items to Subscores and Scores		
Words in Context	10 questions	19%
Command of Evidence	10 questions	19%
Analysis in History/Social Studies	21 questions (all History/ Social Studies questions)	40%
Analysis in Science	21 questions (all Science questions)	40%
Passage Contents		
U.S. and World Literature	1 passage; 10 questions	20%
History/Social Studies	2 passages, or 1 passage and 1 pair; 10–11 questions each	40%
Science	2 passages, or 1 passage and 1 pair; 10–11 questions each	40%
Graphics		
	1–2 graphics in 1 History/Social Studies and 1 Science passage	
Text and Graphical Complexity		
Text complexity	A range from grades 9–10 to postsecondary entry across 4 passages and 1 pair	
Graphical data representations (tables, graphs, charts, etc.)	Somewhat challenging to challenging (moderate to moderately high data density, few to several variables, moderately challenging to moderately complex interactions)	

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Table A-3.2: SAT Reading Domain

Content Dimension	Description
Text Complexity	The passages/pair on the SAT Reading Test represent a range of text complexities from grades 9–10 to postsecondary entry.
Information and Ideas	These questions focus on the informational content of text.
Reading closely	These question focus on the explicit and implicit meaning of text and on extrapolating beyond the information and ideas in a text.
Determining explicit meanings	The student will identify information and ideas explicitly stated in text.
Determining implicit meanings	The student will draw reasonable inferences and logical conclusions from text.
Using analogical reasoning	The student will extrapolate in a reasonable way from the information and ideas in a text or apply information and ideas in a text in a principled way to a new, analogous situation.
Citing textual evidence	The student will cite the textual evidence that best supports a given claim or point.
Determining central ideas and themes	The student will identify explicitly stated central ideas or themes in text and determine implicit central ideas or themes from text.
Summarizing	The student will identify a reasonable summary of a text or of key information and ideas in text.
Understanding relationships	The student will identify explicitly stated relationships or determine implicit relationships between and among individuals, events, or ideas (e.g., cause–effect, comparison–contrast, sequence).
Interpreting words and phrases in context	The student will determine the meaning of words and phrases in context.
Rhetoric	These questions focus on words and phrases in context and on the rhetorical analysis of text.
Analyzing word choice	The student will determine how the selection of specific words and phrases or the use of patterns of words and phrases shapes meaning and tone in text.
Analyzing text structure	These questions focus on the overall structure of a text and on the relationship between a particular part of a text and the whole text.
Analyzing overall text structure	The student will describe the overall structure of a text.
Analyzing part–whole relationships	The student will analyze the relationship between a particular part of a text (e.g., a sentence) and the whole text.
Analyzing point of view	The student will determine the point of view or perspective from which a text is related or the influence this point of view or perspective has on content and style.
Analyzing purpose	The student will determine the main or most likely purpose of a text or of a particular part of a text (typically, one or more paragraphs).

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Content Dimension	Description
Analyzing arguments	These questions focus on analyzing arguments for their content and structure.
Analyzing claims and counterclaims	The student will identify claims and counterclaims explicitly stated in text or determine implicit claims and counterclaims from text.
Assessing reasoning	The student will assess an author's reasoning for soundness.
Analyzing evidence	The student will assess how an author uses or fails to use evidence to support a claim or counterclaim.
Synthesis	These questions focus on synthesizing multiple sources of information and on analyzing arguments.
Analyzing quantitative information	The student will analyze information presented quantitatively in such forms as graphs, charts, and tables and relate that information to information presented in text.
Analyzing multiple texts	The student will synthesize information and ideas from paired texts. (Note: All of the skills listed above may be tested with either single or paired passages.)

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Table A-3.3: SAT Writing and Language Test Content Specifications

	Number	Percentage of Test
Time Allotted	35 minutes	
Word Count	1,700 words total from 4 passages; 400–450 words per passage	
Total Questions	44 questions	100%
Multiple choice (4 options)		100%
Passage based		100%
Contribution of Items to Subscores and Scores		
Expression of Ideas	24 questions	55%
Standard English Conventions	20 questions	45%
Words in Context	8 questions (2 questions per passage)	18%
Command of Evidence	8 questions (2 questions per passage)	8%
Analysis in History/Social Studies	6 questions (all Expression of Ideas questions in History/Social Studies)	14%
Analysis in Science	6 questions (all Expression of Ideas questions in Science)	14%
Passage Contents		
Careers	1 passage; 11 questions	25%
History/Social Studies	1 passage; 11 questions	25%
Humanities	1 passage; 11 questions	25%
Science	1 passage; 11 questions	25%
Graphics		
	1 or more graphics in 1 or more sets of questions	
Text Types		
Argument	1–2 passages	25%–50%
Informative/Explanatory Text	1–2 passages	25%–50%
Nonfiction Narrative	1 passage	25%
Text and Graphical Complexity		
Text complexity	A range from grades 9–10 to postsecondary entry across 4 passages	
Graphical data representations (tables, charts, graphs, etc.)	Basic to somewhat challenging (low to moderate data density, few variables, simple to moderately challenging interactions)	

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Table A-3.4: SAT Writing and Language Domain

Content Dimension	Description
Text Complexity	The passages on the SAT Writing and Language Test represent a range of text complexities from grades 9–10 to postsecondary entry.
Expression of Ideas	These questions focus on revision of text for topic development, accuracy (consistency between text and graphic[s]), logic, cohesion, and rhetorically effective use of language.
Development	These questions focus on revising text in relation to rhetorical purpose. (Prior knowledge of the topic is not assessed, though consistency of the material within a passage may be.)
Proposition	The student will add, revise, or retain central ideas, main claims, counterclaims, topic sentences, and the like to structure text and convey arguments, information, and ideas clearly and effectively.
Support	The student will add, revise, or retain information and ideas (e.g., details, facts, statistics) intended to support claims or points in text.
Focus	The student will add, revise, retain, or delete information and ideas in text for the sake of relevance to topic and purpose.
Quantitative information	The student will relate information presented quantitatively in such forms as graphs, charts, and tables to information presented in text.
Organization	These questions focus on revision of text to improve the logic and cohesion of text at the sentence, paragraph, and whole-text levels.
Logical sequence	The student will revise text as needed to ensure that information and ideas are presented in the most logical order.
Introductions, conclusions, and transitions	The student will revise text as needed to improve the beginning or ending of a text or to ensure that transition words, phrases, or sentences are used effectively to connect information and ideas.
Effective language use	These questions focus on revision of text to improve the use of language to accomplish particular rhetorical purposes.
Precision	The student will revise text as needed to improve the precision of word choice.
Concision	The student will revise text as necessary to improve the economy of word choice (i.e., to eliminate wordiness and redundancy).
Style and tone	The student will revise text as necessary to ensure consistency of style and tone within a text or to improve the match of style and tone to purpose.
Syntax	The student will use various sentence structures to accomplish specified rhetorical purposes.

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Content Dimension	Description
Standard English Conventions	These questions focus on editing text to ensure conformity to the conventions of standard written English sentence structure, usage, and punctuation.
Sentence structure	These questions focus on editing text to correct problems in sentence formation and inappropriate shifts in construction within and between sentences.
Sentence formation	These questions focus on editing text to correct problems with forming grammatically complete and standard sentences.
Sentence boundaries	The student will recognize and correct grammatically incomplete sentences (e.g., rhetorically inappropriate fragments and run-ons).
Subordination and coordination	The student will recognize and correct problems in coordination and subordination in sentences.
Parallel structure	The student will recognize and correct problems in parallel structure in sentences.
Modifier placement	The student will recognize and correct problems in modifier placement (e.g., misplaced or dangling modifiers).
Inappropriate shifts in construction	These questions focus on editing text to correct inappropriate shifts in verb tense, voice, and mood and pronoun person and number.
Verb tense, mood, and voice	The student will recognize and correct inappropriate shifts in verb tense, voice, and mood within and between sentences.
Pronoun person and number	The student will recognize and correct inappropriate shifts in pronoun person and number within and between sentences.
Conventions of Usage	These questions focus on editing text to ensure conformity to the conventions of standard written English usage.
Pronouns	These questions focus on the proper use of pronouns.
Pronoun clarity	The student will recognize and correct pronouns with unclear or ambiguous antecedents.
Possessive determiners	The student will recognize and correct cases in which possessive determiners (*its*, *your*, *their*), contractions (*it's*, *you're*, *they're*), and adverbs (*there*) are confused with each other.
Agreement	These questions focus on ensuring grammatical agreement.
Pronoun–antecedent agreement	The student will recognize and correct lack of agreement between pronoun and antecedent.
Subject–verb agreement	The student will recognize and correct lack of agreement between subject and verb.
Noun agreement	The student will recognize and correct lack of agreement between nouns.
Frequently confused words	The student will recognize and correct instances in which a word or phrase is confused with another (e.g., *accept*/*except*, *allusion*/*illusion*).

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Content Dimension	Description
Logical comparison	The student will recognize and correct cases in which unlike terms are compared.
Conventional expression	The student will recognize and correct cases in which a given expression is inconsistent with standard written English.
Conventions of Punctuation	These questions focus on editing text to ensure conformity to the conventions of standard written English punctuation.
End-of-sentence punctuation	The student will recognize and correct inappropriate uses of ending punctuation in cases in which the context makes the intent clear.
Within-sentence punctuation	The student will correctly use and recognize and correct inappropriate uses of colons, semicolons, and dashes to indicate sharp breaks in thought within sentences.
Possessive nouns and pronouns	The student will recognize and correct inappropriate uses of possessive nouns and pronouns as well as differentiate between possessive and plural forms.
Items in a series	The student will correctly use and recognize and correct inappropriate uses of punctuation (commas and sometimes semicolons) to separate items in a series.
Nonrestrictive and parenthetical elements	The student will correctly use punctuation (commas, parentheses, dashes) to set off nonrestrictive and parenthetical sentence elements as well as recognize and correct cases in which restrictive sentence elements are inappropriately set off with punctuation.
Unnecessary punctuation	The student will recognize and correct cases in which unnecessary punctuation appears in a sentence.

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Table A-3.5: SAT Math Test Content Specifications

	Number	Percentage of Test
Time Allotted: Total	80 minutes	
Calculator Portion (38 questions worth 38 points)	55 minutes	
No-Calculator Portion (20 questions worth 20 points)	25 minutes	
Total Items	58 questions	100%
Multiple choice (MC, 4 options)	45 questions	78%
Student-produced response (SPR—grid-in)	13 questions	22%
Contribution of Items to Subscores		
Heart of Algebra ▪ Analyzing and fluently solving equations and systems of equations ▪ Creating expressions, equations, and inequalities to represent relationships between quantities and to solve problems ▪ Rearranging and interpreting formulas	19 questions	33%
Problem Solving and Data Analysis ▪ Creating and analyzing relationships using ratios, proportions, percentages, and units ▪ Describing relationships shown graphically ▪ Summarizing qualitative and quantitative data	17 questions	29%
Passport to Advanced Math ▪ Rewriting expressions using their structure ▪ Creating, analyzing, and fluently solving quadratic and higher-order equations ▪ Manipulating polynomials purposefully to solve problems	16 questions	28%
Additional Topics in Math* ▪ Making area and volume calculations in context ▪ Investigating lines, angles, triangles, and circles using theorems ▪ Working with trigonometric functions	6 questions	10%
Contribution of Items to Across-Test Scores		
Analysis in Science	8 questions	14%
Analysis in History/Social Studies	8 questions	14%

*Questions under Additional Topics in Math contribute to the total Math Test score but do not contribute to a subscore within the Math Test.

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Table A-3.6: SAT Math Test Domains

Content Dimension	Description
	Heart of Algebra
Linear equations in one variable	▪ Create and use linear equations in one variable to solve problems in a variety of contexts. ▪ Create a linear equation in one variable, and when in context interpret solutions in terms of the context. ▪ Solve a linear equation in one variable, making strategic use of algebraic structure. ▪ For a linear equation in one variable: ◆ interpret a constant, variable, factor or term in a context; and ◆ determine the conditions under which the equation has no solution, a unique solution, or infinitely many solutions. ▪ Fluently solve a linear equation in one variable.
Linear functions	Algebraically, a linear function can be defined by a linear expression in one variable or by a linear equation in two variables. In the first case, the variable is the input and the value of the expression is the output. In the second case, one of the variables is designated as the input and determines a unique value of the other variable, which is the output. ▪ Create and use linear functions to solve problems in a variety of contexts. ▪ Create a linear function to model a relationship between two quantities. ▪ For a linear function that represents a context: ◆ interpret the meaning of an input/output pair, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; ◆ given an input value, find and/or interpret the output value using the given representation; and ◆ given an output value, find and/or interpret the input value using the given representation, if it exists. ▪ Make connections between verbal, tabular, algebraic, and graphical representations of a linear function by: ◆ deriving one representation from the other; ◆ identifying features of one representation given another representation; and ◆ determining how a graph is affected by a change to its equation. ▪ Write the rule for a linear function given two input/output pairs or one input/output pair and the rate of change.

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Content Dimension	Description
Linear equations in two variables	A linear equation in two variables can be used to represent a constraint or condition on two-variable quantities in situations where neither of the variables is regarded as an input or an output. A linear equation can also be used to represent a straight line in the coordinate plane. ▪ Create and use a linear equation in two variables to solve problems in a variety of contexts. ▪ Create a linear equation in two variables to model a constraint or condition on two quantities. ▪ For a linear equation in two variables that represents a context: ◆ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and ◆ given a value of one quantity in the relationship, find a value of the other, if it exists. ▪ Make connections between tabular, algebraic, and graphical representations of a linear equation in two variables by: ◆ deriving one representation from the other; ◆ identifying features of one representation given the other representation; and ◆ determining how a graph is affected by a change to its equation. ▪ Write an equation for a line given two points on the line, one point and the slope of the line, or one point and a parallel or perpendicular line.
Systems of two linear equations in two variables	▪ Create and use a system of two linear equations in two variables to solve problems in a variety of contexts. ▪ Create a system of linear equations in two variables, and when in context interpret solutions in terms of the context. ▪ Make connections between tabular, algebraic, and graphical representations of the system by deriving one representation from the other. ▪ Solve a system of two linear equations in two variables, making strategic use of algebraic structure. ▪ For a system of linear equations in two variables: ◆ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and ◆ determine the conditions under which the system has no solution, a unique solution, or infinitely many solutions. ▪ Fluently solve a system of linear equations in two variables.
Linear inequalities in one or two variables	▪ Create and use linear inequalities in one or two variables to solve problems in a variety of contexts. ▪ Create linear inequalities in one or two variables, and when in context interpret the solutions in terms of the context. ▪ For linear inequalities in one or two variables, interpret a constant, variable, factor, or term, including situations where seeing structure provides an advantage. ▪ Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other. ▪ Given a linear inequality or system of linear inequalities, interpret a point in the solution set.

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Content Dimension	Description
	Problem Solving and Data Analysis
Ratios, rates, proportional relationships, and units	▪ Items will require students to solve problems by using a proportional relationship between quantities, calculating or using a ratio or rate, and/or using units, derived units, and unit conversion. ▪ Apply proportional relationships, ratios, rates, and units in a wide variety of contexts. Examples include, but are not limited to, scale drawings and problems in the natural and social sciences. ▪ Solve problems involving: ◆ derived units, including those that arise from products (e.g., kilowatt-hours) and quotients (e.g., population per square kilometer); and ◆ unit conversion, including currency exchange and conversion between different measurement systems. ▪ Understand and use the fact that when two quantities are in a proportional relationship, if one changes by a scale factor, then the other also changes by the same scale factor.
Percentages	▪ Use percentages to solve problems in a variety of contexts. Examples include, but are not limited to, discounts, interest, taxes, tips, and percent increases and decreases for many different quantities. ▪ Understand and use the relationship between percent change and growth factor (e.g., 5% and 1.05); include percentages greater than or equal to 100%.
One-variable data: distribution and measures of center and spread	▪ Choose an appropriate graphical representation for a given data set. ▪ Interpret information from a given representation of data in context. ▪ Analyze and interpret numerical data distributions represented with frequency tables, histograms, dot plots, and boxplots. ▪ For quantitative variables, calculate, compare, and interpret mean, median, and range. Interpret (but don't calculate) standard deviation. ▪ Compare distributions using measures of center and spread, including distributions with different means and the same standard deviations and ones with the same mean and different standard deviations. ▪ Understand and describe the effect of outliers on mean and median. ▪ Given an appropriate data set, calculate the mean.
Two-variable data: models and scatterplots	▪ Using a model that fits the data in a scatterplot, compare values predicted by the model to values given in the data set. ▪ Interpret the slope and intercepts of the line of best fit in context. ▪ Given a relationship between two quantities, read and interpret graphs and tables modeling the relationship. ▪ Analyze and interpret data represented in a scatterplot or line graph; fit linear, quadratic, and exponential models. ▪ Select a graph that represents a context, identify a value on a graph, or interpret information on the graph. ▪ For a given function type (linear, quadratic, exponential), choose the function of that type that best fits given data. ▪ Compare linear and exponential growth. ▪ Estimate the line of best fit for a given scatterplot; use the line to make predictions

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Content Dimension	Description
Probability and conditional probability	Use one- and two-way tables, tree diagrams, area models, and other representations to find relative frequency, probabilities, and conditional probabilities. ▪ Compute and interpret probability and conditional probability in simple contexts. ▪ Understand formulas for probability and conditional probability in terms of frequency.
Inference from sample statistics and margin of error	▪ Use sample mean and sample proportion to estimate population mean and population proportion. Utilize, but do not calculate, margin of error. ▪ Interpret margin of error; understand that a larger sample size generally leads to a smaller margin of error.
Evaluating statistical claims: observational studies and experiments	▪ With random samples, describe which population the results can be extended to. ▪ Given a description of a study with or without random assignment, determine whether there is evidence for a causal relationship. ▪ Understand why random assignment provides evidence for a causal relationship. ▪ Understand why a result can be extended only to the population from which the sample was selected.
Passport to Advanced Math	
Equivalent expressions	▪ Make strategic use of algebraic structure and the properties of operations to identify and create equivalent expressions, including: ◆ rewriting simple rational expressions; ◆ rewriting expressions with rational exponents and radicals; and ◆ factoring polynomials. ▪ Fluently add, subtract, and multiply polynomials.
Nonlinear equations in one variable and systems of equations in two variables	▪ Make strategic use of algebraic structure, the properties of operations, and reasoning about equality to: ◆ solve quadratic equations in one variable presented in a wide variety of forms; determine the conditions under which a quadratic equation has no real solutions, one real solution, or two real solutions; ◆ solve simple rational and radical equations in one variable; ◆ identify when the procedures used to solve a simple rational or radical equation in one variable lead to an equation with solutions that do not satisfy the original equation (extraneous solutions); ◆ solve polynomial equations in one variable that are written in factored form; ◆ solve linear absolute value equations in one variable; and ◆ solve systems of linear and nonlinear equations in two variables, including relating the solutions to the graphs of the equations in the system. ▪ Given a nonlinear equation in one variable that represents a context, interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage. ▪ Given an equation or formula in two or more variables that represents a context, view it as an equation in a single variable of interest where the other variables are parameters and solve for the variable of interest. ▪ Fluently solve quadratic equations in one variable, written as a quadratic expression in standard form equal to zero, where using the quadratic formula or completing the square is the most efficient method for solving the equation.

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Content Dimension	Description
Nonlinear functions	▪ Create and use quadratic or exponential functions to solve problems in a variety of contexts. ▪ For a quadratic or exponential function: ◆ identify or create an appropriate function to model a relationship between quantities; ◆ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph; ◆ for a function that represents a context, interpret the meaning of an input/output pair, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; ◆ determine the most suitable form of the expression representing the output of the function to display key features of the context, including (i) selecting the form of a quadratic that displays the initial value, the zeros, or the extreme value, and (ii) selecting the form of an exponential that displays the initial value, the end-behavior(for exponential decay), or the doubling or halving time; and ◆ make connections between tabular, algebraic, and graphical representations of the function by (i) given one representation, selecting another representation, (ii) identifying features of one representation given another representation, including maximum and minimum values of the function, and (iii) determining how a graph is affected by a change to its equation, including a vertical shift or scaling of the graph. ▪ For a factorable or factored polynomial or simple rational function: ◆ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph; ◆ understand and use the fact that for the graph of $y = f(x)$, the solutions to $f(x) = 0$ correspond to x-intercepts of the graph and $f(0)$ corresponds to the y-intercept of the graph; interpret these key features in terms of a context; and ◆ identify the graph given an algebraic representation of the function and an algebraic representation given the graph (with or without a context).
Additional Topics In Math	
Area and volume	▪ Solve real-world and mathematical problems about a geometric figure or an object that can be modeled by a geometric figure using given information such as length, area, surface area, or volume. ◆ Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k, changes all areas by a factor of k^2, and changes all volumes by a factor of k^3. ◆ Demonstrate procedural fluency by selecting the correct area or volume formula and correctly calculating a specified value.

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Content Dimension	Description
Lines, angles, and triangles	▪ Use concepts and theorems relating to congruence and similarity of triangles to solve problems. ▪ Determine which statements may be required to prove certain relationships or to satisfy a given theorem. ▪ Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k, but angle measures remain unchanged. ▪ Know and directly apply relevant theorems such as: ◆ the vertical angle theorem; ◆ triangle similarity and congruence criteria; ◆ triangle angle sum theorem; and ◆ the relationship of angles formed when a transversal cuts parallel lines.
Right triangles and trigonometry	▪ Solve problems in a variety of contexts using: ◆ the Pythagorean theorem; ◆ right triangle trigonometry; and ◆ properties of special right triangles. ▪ Use similarity to calculate values of sine, cosine, and tangent. ▪ Understand that when given one side length and one acute angle measure in a right triangle, the remaining values can be determined. ▪ Solve problems using the relationship between sine and cosine of complementary angles. ▪ Fluently apply properties of special right triangles to determine side lengths and calculate trigonometric ratios of 30, 45, and 60 degrees.
Circles	▪ Use definitions, properties, and theorems relating to circles and parts of circles, such as radii, diameters, tangents, angles, arcs, arc lengths, and sector areas, to solve problems. ▪ Solve problems using: ◆ radian measure; and ◆ trigonometric ratios in the unit circle. ▪ Create an equation to represent a circle in the xy-plane. ▪ Describe how: ◆ a change to the equation representing a circle in the xy-plane affects the graph of the circle; and ◆ a change in the graph of the circle affects the equation of the circle. ▪ Understand that the ordered pairs that satisfy an equation of the form $(x - h)^2 + (y - k)^2 = r^2$ form a circle when plotted in the xy-plane. ▪ Convert between angle measures in degrees and radians. ▪ Complete the square in an equation representing a circle to determine properties of the circle when it is graphed in the xy-plane and use the distance formula in problems related to circles.
Complex numbers	▪ Apply knowledge and understanding of the complex number system to add, subtract, multiply, and divide with complex numbers and solve problems.

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Table A-3.7: Calculator Portion

	Number of Questions	% of Test
Total Questions	**38**	**100%**
Multiple choice (MC)	30	79%
Student-produced response (SPR—grid-in)	8	21%
Content Categories	**38**	**100%**
Heart of Algebra	11	29%
Problem Solving and Data Analysis	17	45%
Passport to Advanced Math	7	18%
Additional Topics in Math	3	8%
Time Allocated	55 minutes	

Table A-3.8: No-Calculator Portion

	Number of Questions	% of Test
Total Questions	**20**	**100%**
Multiple choice (MC)	15	75%
Student-produced response (SPR—grid-in)	5	25%
Content Categories	**20**	**100%**
Heart of Algebra	8	40%
Passport to Advanced Math	9	45%
Additional Topics in Math	3	15%
Time Allocated	25 minutes	

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Table A-3.9: SAT Heart of Algebra Domain

Content Dimension	Description
Linear equations in one variable	▪ Create and use linear equations in one variable to solve problems in a variety of contexts. ▪ Create a linear equation in one variable, and when in context interpret solutions in terms of the context. ▪ Solve a linear equation in one variable, making strategic use of algebraic structure. ▪ For a linear equation in one variable: ◆ interpret a constant, variable, factor or term in a context; and ◆ determine the conditions under which the equation has no solution, a unique solution, or infinitely many solutions. ▪ Fluently solve a linear equation in one variable.
Linear functions	▪ Create and use linear functions to solve problems in a variety of contexts. ▪ Create a linear function to model a relationship between two quantities. ▪ For a linear function that represents a context: ◆ interpret the meaning of an input/output pair, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; ◆ given an input value, find and/or interpret the output value using the given representation; and ◆ given an output value, find and/or interpret the input value using the given representation, if it exists. ▪ Make connections between verbal, tabular, algebraic, and graphical representations of a linear function, by: ◆ deriving one representation from the other; ◆ identifying features of one representation given another representation; and ◆ determining how a graph is affected by a change to its equation. ▪ Write the rule for a linear function given two input/output pairs or one input/output pair and the rate of change.
Linear equations in two variables	▪ Create and use a linear equation in two variables to solve problems in a variety of contexts. ▪ Create a linear equation in two variables to model a constraint or condition on two quantities. ▪ For a linear equation in two variables that represents a context: ◆ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and ◆ given a value of one quantity in the relationship, find a value of the other, if it exists. ▪ Make connections between tabular, algebraic, and graphical representations of a linear equation in two variables by: ◆ deriving one representation from the other; ◆ identifying features of one representation given the other representation; and ◆ determining how a graph is affected by a change to its equation. ▪ Write an equation for a line given two points on the line, one point and the slope of the line, or one point and a parallel or perpendicular line.

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Content Dimension	Description
Systems of two linear equations in two variables	▪ Create and use a system of two linear equations in two variables to solve problems in a variety of contexts. ▪ Create a system of linear equations in two variables, and when in context interpret solutions in terms of the context. ▪ Make connections between tabular, algebraic, and graphical representations of the system by deriving one representation from the other. ▪ Solve a system of two linear equations in two variables, making strategic use of algebraic structure. ▪ For a system of linear equations in two variables: ◆ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and ◆ determine the conditions under which the system has no solution, a unique solution, or infinitely many solutions. ▪ Fluently solve a system of linear equations in two variables.
Linear inequalities in one or two variables	▪ Create and use linear inequalities in one or two variables to solve problems in a variety of contexts. ▪ Create linear inequalities in one or two variables, and when in context interpret the solutions in terms of the context. ▪ For linear inequalities in one or two variables, interpret a constant, variable, factor, or term, including situations where seeing structure provides an advantage. ▪ Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other. ▪ Given a linear inequality or system of linear inequalities, interpret a point in the solution set.

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Table A-3.10: SAT Problem Solving and Data Analysis Domain

Content Dimension	Description
Ratios, rates, proportional relationships, and units	▪ Apply proportional relationships, ratios, rates and units in a wide variety of contexts. Examples include, but are not limited to, scale drawings and problems in the natural and social sciences. ▪ Solve problems involving: ◆ derived units including those that arise from products (e.g., kilowatt-hours) and quotients (e.g., population per square kilometer); and ◆ unit conversion including currency exchange and conversion between different measurement systems. ▪ Understand and use the fact that when two quantities are in a proportional relationship, if one changes by a scale factor, then the other also changes by the same scale factor.
Percentages	▪ Use percentages to solve problems in a variety of contexts. Examples include, but are not limited to, discounts, interest, taxes, tips, and percent increases and decreases for many different quantities. ▪ Understand and use the relationship between percent change and growth factor (e.g., 5% and 1.05); include percentages greater than or equal to 100%.
One-variable data: distributions and measures of center and spread	▪ Choose an appropriate graphical representation for a given data set. ▪ Interpret information from a given representation of data in context. ▪ Analyze and interpret numerical data distributions represented with frequency tables, histograms, dot plots, and boxplots. ▪ For quantitative variables, calculate, compare, and interpret mean, median, and range. Interpret (but don't calculate) standard deviation. ▪ Compare distributions using measures of center and spread, including distributions with different means and the same standard deviations and ones with the same mean and different standard deviations. ▪ Understand and describe the effect of outliers on mean and median. ▪ Given an appropriate data set, calculate the mean.
Two-variable data: models and scatterplots	▪ Using a model that fits the data in a scatterplot, compare values predicted by the model to values given in the data set. ▪ Interpret the slope and intercepts of the line of best fit in context. ▪ Given a relationship between two quantities, read and interpret graphs and tables modeling the relationship. ▪ Analyze and interpret data represented in a scatterplot or line graph; fit linear, quadratic, and exponential models. ▪ Select a graph that represents a context, identify a value on a graph, or interpret information on the graph. ▪ For a given function type (linear, quadratic, exponential), choose the function of that type that best fits given data. ▪ Compare linear and exponential growth. ▪ Estimate the line of best fit for a given scatterplot; use the line to make predictions.

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Content Dimension	Description
Probability and conditional probability	▪ Compute and interpret probability and conditional probability in simple contexts. ▪ Understand formulas for probability and conditional probability in terms of frequency.
Inference from sample statistics and margin of error	▪ Use sample mean and sample proportion to estimate population mean and population proportion. Utilize, but do not calculate, margin of error. ▪ Interpret margin of error; understand that a larger sample size generally leads to a smaller margin of error.
Evaluating statistical claims: observational studies and experiments	▪ With random samples, describe which population the results can be extended to. ▪ Given a description of a study with or without random assignment, determine whether there is evidence for a causal relationship. ▪ Understand why random assignment provides evidence for a causal relationship. ▪ Understand why a result can be extended only to the population from which the sample was selected.

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Table A-3.11: SAT Passport to Advanced Math Domain

Content Dimension	Description
Equivalent expressions	▪ Make strategic use of algebraic structure and the properties of operations to identify and create equivalent expressions, including: ◆ rewriting simple rational expressions; ◆ rewriting expressions with rational exponents and radicals; and ◆ factoring polynomials. ▪ Fluently add, subtract, and multiply polynomials.
Nonlinear equations in one variable and systems of equations in two variables	▪ Make strategic use of algebraic structure, the properties of operations, and reasoning about equality to: ◆ solve quadratic equations in one variable presented in a wide variety of forms; determine the conditions under which a quadratic equation has no real solutions, one real solution, or two real solutions; ◆ solve simple rational and radical equations in one variable; ◆ identify when the procedures used to solve a simple rational or radical equation in one variable lead to an equation with solutions that do not satisfy the original equation (extraneous solutions); ◆ solve polynomial equations in one variable that are written in factored form; ◆ solve linear absolute value equations in one variable; and ◆ solve systems of linear and nonlinear equations in two variables, including relating the solutions to the graphs of the equations in the system. ▪ Given a nonlinear equation in one variable that represents a context, interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage. ▪ Given an equation or formula in two or more variables that represents a context, view it as an equation in a single variable of interest where the other variables are parameters and solve for the variable of interest. ▪ Fluently solve quadratic equations in one variable, written as a quadratic expression in standard form equal to zero, where using the quadratic formula or completing the square is the most efficient method for solving the equation.

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Content Dimension	Description
Nonlinear functions	▪ Create and use quadratic or exponential functions to solve problems in a variety of contexts. ▪ For a quadratic or exponential function: ◆ identify or create an appropriate function to model a relationship between quantities; ◆ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph; ◆ for a function that represents a context, interpret the meaning of an input/output pair, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; ◆ determine the most suitable form of the expression representing the output of the function to display key features of the context, including: - selecting the form of a quadratic that displays the initial value, the zeros, or the extreme value; and - selecting the form of an exponential that displays the initial value, the end-behavior (for exponential decay), or the doubling or halving time; and ◆ make connections between tabular, algebraic, and graphical representations of the function, by: - given one representation, selecting another representation; - identifying features of one representation given the another representation, including maximum and minimum values of the function; and - determining how a graph is affected by a change to its equation, including a vertical shift or scaling of the graph. ▪ For a factorable or factored polynomial or simple rational function: ◆ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph; ◆ understand and use the fact that for the graph of $y = f(x)$, the solutions to $f(x) = 0$ correspond to x-intercepts of the graph and $f(0)$ corresponds to the y-intercept of the graph; interpret these key features in terms of a context; and ◆ identify the graph given an algebraic representation of the function and an algebraic representation given the graph (with or without a context).

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Table A-3.12: SAT Additional Topics in Math Domain

Content Dimension	Description
Area and volume	▪ Solve real-world and mathematical problems about a geometric figure or an object that can be modeled by a geometric figure using given information such as length, area, surface area, or volume. ◆ Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k, changes all areas by a factor of k^2, and changes all volumes by a factor of k^3. ◆ Demonstrate procedural fluency by selecting the correct area or volume formula and correctly calculating a specified value.
Lines, angles, and triangles	▪ Use concepts and theorems relating to congruence and similarity of triangles to solve problems. ▪ Determine which statements may be required to prove certain relationships or to satisfy a given theorem. ▪ Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k, but angle measures remain unchanged. ▪ Know and directly apply relevant theorems such as: ◆ the vertical angle theorem; ◆ triangle similarity and congruence criteria; ◆ triangle angle sum theorem; and ◆ the relationship of angles formed when a transversal cuts parallel lines.
Right triangles and trigonometry	▪ Solve problems in a variety of contexts using: ◆ the Pythagorean theorem; ◆ right triangle trigonometry; and ◆ properties of special right triangles. ▪ Use similarity to calculate values of sine, cosine, and tangent. ▪ Understand that when given one side length and one acute angle measure in a right triangle, the remaining values can be determined. ▪ Solve problems using the relationship between sine and cosine of complementary angles. ▪ Fluently apply properties of special right triangles to determine side lengths and calculate trigonometric ratios of 30, 45, and 60 degrees.

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Content Dimension	Description
Circles	▪ Use definitions, properties, and theorems relating to circles and parts of circles, such as radii, diameters, tangents, angles, arcs, arc lengths, and sector areas, to solve problems. ▪ Solve problems using: ◆ radian measure; and ◆ trigonometric ratios in the unit circle. ▪ Create an equation to represent a circle in the *xy*-plane. ▪ Describe how: ◆ a change to the equation representing a circle in the *xy*-plane affects the graph of the circle; and ◆ a change in the graph of the circle affects the equation of the circle. ▪ Understand that the ordered pairs that satisfy an equation of the form $(x - h)^2 + (y - k)^2 = r^2$ form a circle when plotted in the *xy*-plane. ▪ Convert between angle measures in degrees and radians. ▪ Complete the square in an equation representing a circle to determine properties of the circle when it is graphed in the *xy*-plane and use the distance formula in problems related to circles.
Complex numbers	Apply knowledge and understanding of the complex number system to add, subtract, multiply, and divide with complex numbers and solve problems.

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Table A-3.13: SAT Essay Content Specifications

	Number	Percentage of Test
Time Allotted	50 minutes	
Total Items		
Prompts	1	100%
Passage based (each passage 650–750 words)	1	100%
Passage Content		
Arguments written for a broad audience	1	100%
Text Complexity		
High school reading level (grades 9–12)	1	100%
Analytic Scoring		
Reading	1–4 rating scale; 2–8 reported scale	
Analysis	1–4 rating scale; 2–8 reported scale	
Writing	1–4 rating scale; 2–8 reported scale	

Table A-3.14: SAT Essay Domain

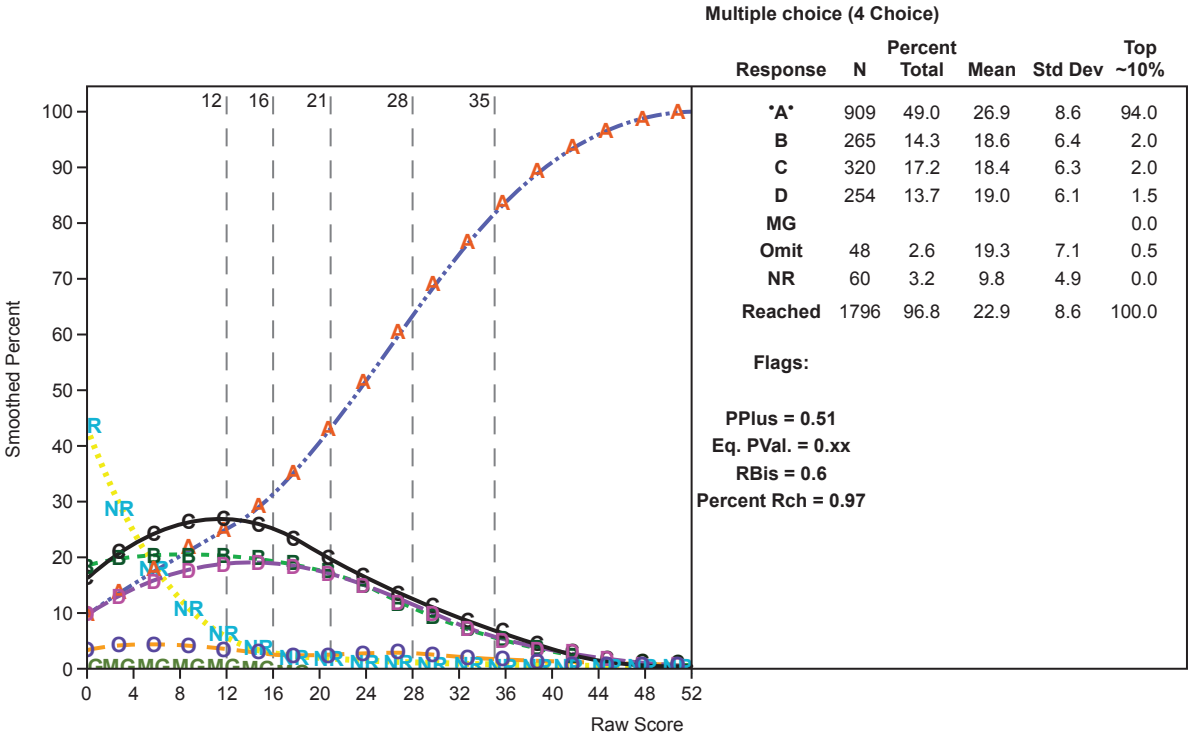
Content Dimension	Description
Reading	Comprehension of the source text Understanding of central ideas, important details, and their interrelationship Accuracy in representation of the source text (i.e., no errors of fact or interpretation introduced) Use of textual evidence (quotations, paraphrases, or both) to demonstrate understanding of the source text
Analysis	Analysis of the source text and understanding of the analytical task Evaluation of the author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features chosen by the student Support for claims or points made in the response Focus on features of the text most relevant to addressing the task
Writing	Use of a central claim Use of effective organization and progression of ideas Use of varied sentence structures Employment of precise word choice Maintenance of a consistent, appropriate style and tone Command of the conventions of standard written English

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Table A-3.15: SAT Essay Evaluation Criteria

Reading	Analysis	Writing
The Reading domain encompasses students' comprehension of a source text, including the text's central ideas and important details and how they interrelate. Students demonstrate their skill in comprehension in part by making effective use of evidence (quotations, paraphrases, or both) from the source text.	The Analysis domain encompasses students' evaluation of an author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features of the text of the students' own choosing. Students demonstrate their skill in analysis in part by using relevant, sufficient, and strategically chosen support for the claims or points they make and by focusing consistently on those features of the text that are most relevant to addressing the task.	The Writing domain encompasses the cohesiveness of students' written response to the task as well as students' use of language. Students demonstrate their skill in writing in part by providing a precise central claim; creating an effective organization and progression of ideas; successfully employing a variety of sentence structures; using precise word choice; maintaining an appropriate style and tone; and showing command of the conventions of standard written English.

Figure A-3.1: Percentage of question responses versus raw score



Vertical reference lines are plotted at percentiles 10, 25, 50, 75, and 90

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APPENDIX 4

Testing Requirements

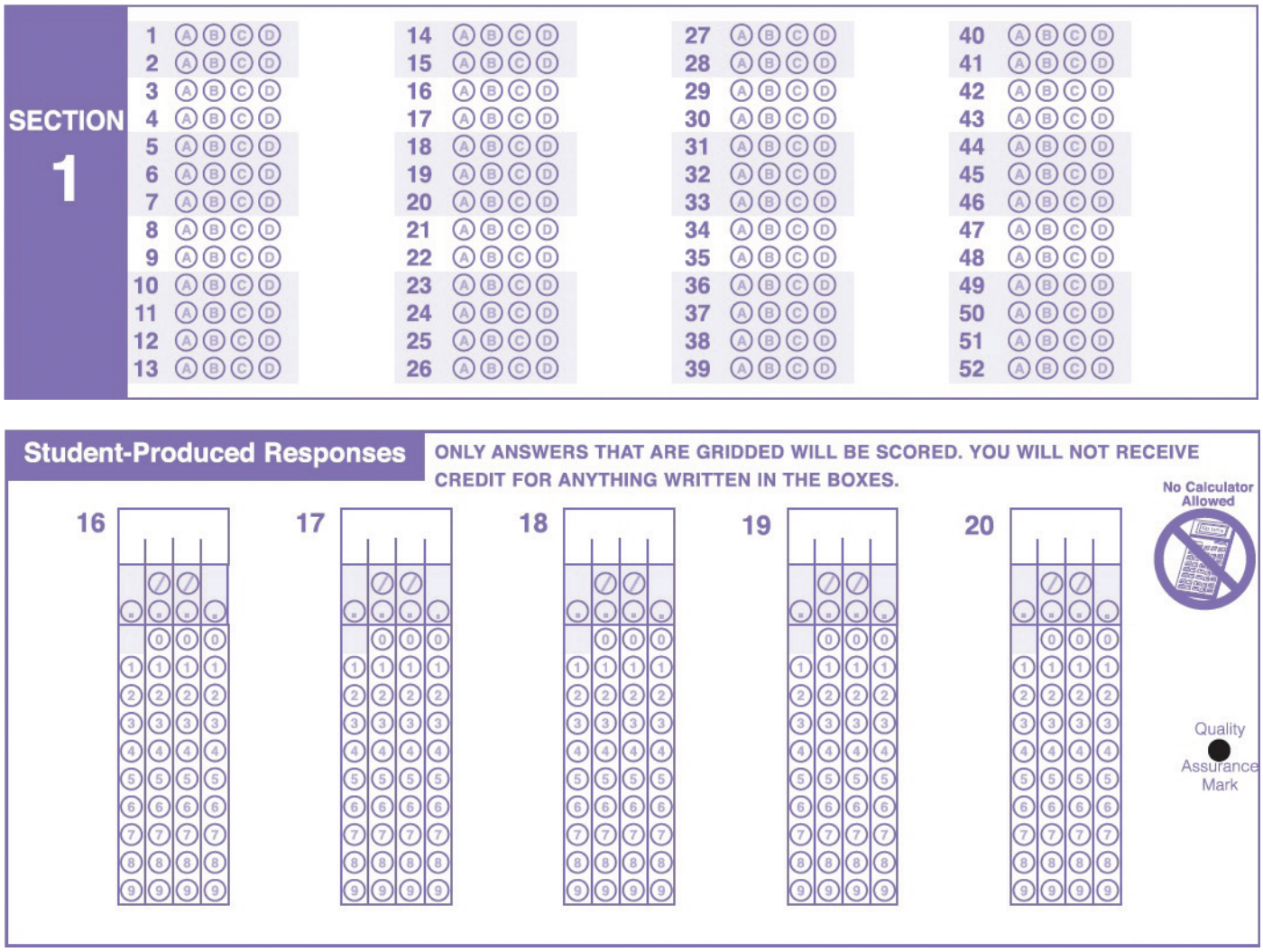
There is currently no appendix content associated with Chapter 4. As the SAT Suite of Assessments continues to be administered, any appendix materials that are created will be placed in the relevant appendixes, in keeping with the technical manual's role as a "living document."

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APPENDIX 5

Interpretation and Application of Results

Figure A-5.1: Multiple-choice and student-produced response answer sheet examples



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Table A-5.1: SAT Essay Scoring Rubric

Score	Reading	Analysis	Writing
4	**Advanced:** The response demonstrates thorough comprehension of the source text. The response shows an understanding of the text's central idea(s) and of most important details and how they interrelate, demonstrating a comprehensive understanding of the text. The response is free of errors of fact or interpretation with regard to the text. The response makes skillful use of textual evidence (quotations, paraphrases, or both), demonstrating a complete understanding of the source text.	**Advanced:** The response offers an insightful analysis of the source text and demonstrates a sophisticated understanding of the analytical task. The response offers a thorough, well-considered evaluation of the author's use of evidence, reasoning, and/or stylistic and persuasive elements and/or feature(s) of the student's own choosing. The response contains relevant, sufficient, and strategically chosen support for claim(s) or point(s) made. The response focuses consistently on those features of the text that are the most relevant to addressing the task.	**Advanced:** The response is cohesive and demonstrates a highly effective use and command of language. The response includes a precise central claim. The response includes a skillful introduction and conclusion. The response demonstrates a deliberate and highly effective progression of ideas both within paragraphs and throughout the essay. The response has a wide variety in sentence structures. The response demonstrates a consistent use of precise word choice. The response maintains a formal style and objective tone. The response shows a strong command of the conventions of standard written English and is free or virtually free of errors.
3	**Proficient:** The response demonstrates effective comprehension of the source text. The response shows an understanding of the text's central idea(s) and important details. The response is free of substantive errors of fact and interpretation with regard to the text. The response makes appropriate use of textual evidence (quotations, paraphrases, or both), demonstrating an understanding of the source text.	**Proficient:** The response offers an effective analysis of the source text and demonstrates an understanding of the analytical task. The response competently evaluates the author's use of evidence, reasoning, and/or stylistic and persuasive elements and/or feature(s) of the student's own choosing. The response contains relevant and sufficient support for claim(s) or point(s) made. The response focuses primarily on those features of the text that are the most relevant to addressing the task.	**Proficient:** The response is mostly cohesive and demonstrates effective use and control of language. The response includes a central claim or implicit controlling idea. The response includes an effective introduction and conclusion. The response demonstrates a clear progression of ideas both within paragraphs and throughout the essay. The response has variety in sentence structures. The response demonstrates some precise word choice. The response maintains a formal style and objective tone. The response shows a good control of the conventions of standard written English and is free of significant errors that detract from the quality of writing.

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Score	Reading	Analysis	Writing
2	**Partial:** The response demonstrates some comprehension of the source text. The response shows an understanding of the text's central idea(s) but not of important details. The response may contain errors of fact and/or interpretation with regard to the text. The response makes limited and/or haphazard use of textual evidence (quotations, paraphrases, or both), demonstrating some understanding of the source text.	**Partial:** The response offers limited analysis of the source text and demonstrates only partial understanding of the analytical task. The response identifies and attempts to describe the author's use of evidence, reasoning, and/or stylistic and persuasive elements and/or feature(s) of the student's own choosing but merely asserts rather than explains their importance. One or more aspects of the analysis reflected in the response are unwarranted based on the text. The response contains little or no support for claim(s) or point(s) made. The response may lack a clear focus on those features of the text that are the most relevant to addressing the task.	**Partial:** The response demonstrates little or no cohesion and limited skill in the use and control of language. The response may lack a clear central claim or controlling idea or may deviate from the claim or idea over the course of the response. The response may include an ineffective introduction and/or conclusion. The response may demonstrate some progression of ideas within paragraphs but not throughout the response. The response has limited variety in sentence structures; sentence structures may be repetitive. The response demonstrates general or vague word choice; word choice may be repetitive. The response may deviate noticeably from a formal style and objective tone. The response shows a limited control of the conventions of standard written English and contains errors that detract from the quality of writing and may impede understanding.
1	**Inadequate:** The response demonstrates little or no comprehension of the source text. The response fails to show an understanding of the text's central idea(s) and may include only details without reference to central idea(s). The response may contain numerous errors of fact and/or interpretation with regard to the text. The response makes little or no use of textual evidence (quotations, paraphrases, or both), demonstrating little or no understanding of the source text.	**Inadequate:** The response offers little or no analysis or an ineffective analysis of the source text and demonstrates little or no understanding of the analytic task. The response identifies without explanation some aspects of the author's use of evidence, reasoning, and/or stylistic and persuasive elements and/or feature(s) of the student's choosing. Numerous aspects of the response's analysis are unwarranted based on the text. The response contains little or no support for claim(s) or point(s) made, or support is largely irrelevant. The response may not focus on features of the text that are relevant to addressing the task. The response offers no discernible analysis (e.g., is largely or exclusively summary).	**Inadequate:** The response demonstrates little or no cohesion and inadequate skill in the use and control of language. The response may lack a clear central claim or controlling idea. The response lacks a recognizable introduction and conclusion. The response does not have a discernible progression of ideas. The response lacks variety in sentence structures; sentence structures may be repetitive. The response demonstrates general and vague word choice; word choice may be poor or inaccurate. The response may lack a formal style and objective tone. The response shows a weak control of the conventions of standard written English and may contain numerous errors that undermine the quality of writing.

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Table A-5.2: Item Difficulty Distribution and Average Item Difficulty for SAT Form 1

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	2	0	1	0	0	0	0	0	0	1
0.14–0.26	1	1	5	2	2	1	1	1	0	0	1	2
0.27–0.45	7	2	11	8	3	3	1	2	0	0	4	6
0.46–0.65	20	18	17	10	13	8	5	9	9	7	5	4
0.66–0.81	15	15	9	9	9	4	3	7	8	5	2	1
0.82–0.92	7	6	10	5	6	2	7	5	1	5	4	1
>0.92	2	2	4	1	1	0	1	0	2	2	1	1
N	52	44	58	35	35	18	18	24	20	19	17	16
MEAN	0.64	0.67	0.58	0.60	0.62	0.58	0.72	0.66	0.68	0.72	0.60	0.47
S.D.	0.17	0.16	0.24	0.20	0.20	0.18	0.21	0.18	0.15	0.17	0.23	0.21

Table A-5.3: Item Difficulty Distribution and Average Item Difficulty for SAT Form 2

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	1	1	0	0	0	0	0	1	0	1	0
0.14–0.26	0	4	7	1	0	1	2	3	1	3	1	2
0.27–0.45	9	6	13	7	7	2	1	3	3	5	1	4
0.46–0.65	19	9	15	10	15	6	6	7	2	3	5	7
0.66–0.81	12	16	14	11	9	5	4	8	8	6	3	3
0.82–0.92	10	7	6	5	4	4	4	3	4	2	4	0
>0.92	2	1	1	0	0	0	1	0	1	0	1	0
N	52	44	57	34	35	18	18	24	20	19	16	16
MEAN	0.64	0.62	0.54	0.59	0.61	0.64	0.65	0.60	0.64	0.53	0.62	0.49
S.D.	0.18	0.22	0.21	0.19	0.15	0.19	0.21	0.21	0.24	0.22	0.23	0.16

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Table A-5.4: Item Difficulty Distribution and Average Item Difficulty for SAT Form 3

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14–0.26	1	0	4	1	1	0	0	0	0	2	1	1
0.27–0.45	7	8	15	8	3	3	2	4	4	2	2	6
0.46–0.65	18	13	19	12	13	7	8	10	3	10	5	4
0.66–0.81	17	17	14	9	12	7	3	8	9	4	5	4
0.82–0.92	6	5	5	3	5	1	3	2	3	0	4	1
>0.92	2	1	1	2	0	0	2	0	1	1	0	0
N	51	44	58	35	34	18	18	24	20	19	17	16
MEAN	0.64	0.65	0.55	0.62	0.61	0.62	0.67	0.61	0.69	0.55	0.64	0.51
S.D.	0.17	0.17	0.20	0.19	0.17	0.15	0.19	0.17	0.17	0.17	0.22	0.20

Table A-5.5: Item Difficulty Distribution and Average Item Difficulty for PSAT/NMSQT and PSAT 10 Form 1

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	2	0	0	0	0	0	0	0	1	1
0.14–0.26	3	2	13	4	2	0	1	0	2	4	3	5
0.27–0.45	16	11	14	9	12	6	4	8	3	6	4	4
0.46–0.65	18	18	12	11	12	9	6	10	8	6	3	2
0.66–0.81	7	12	5	7	5	3	5	6	6	0	3	2
0.82–0.92	3	1	2	1	1	0	2	0	1	0	2	0
>0.92	0	0	0	0	0	0	0	0	0	0	0	0
N	47	44	48	32	32	18	18	24	20	16	16	14
MEAN	0.51	0.56	0.42	0.52	0.50	0.53	0.59	0.55	0.58	0.40	0.49	0.35
S.D.	0.18	0.16	0.20	0.19	0.17	0.15	0.18	0.15	0.17	0.13	0.26	0.19

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Table A-5.6: Item Difficulty Distribution and Average Item Difficulty for PSAT/NMSQT and PSAT 10 Form 2

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	1	0	0	0	0	0	0	0	0	1
0.14–0.26	4	3	8	5	1	2	1	1	2	1	2	5
0.27–0.45	14	11	19	11	9	6	5	5	6	7	6	4
0.46–0.65	19	21	15	7	17	7	3	12	9	7	5	3
0.66–0.81	9	9	5	9	5	3	8	6	3	1	3	1
0.82–0.92	1	0	0	0	0	0	1	0	0	0	0	0
>0.92	0	0	0	0	0	0	0	0	0	0	0	0
N	47	44	48	32	32	18	18	24	20	16	16	14
MEAN	0.50	0.51	0.42	0.47	0.51	0.47	0.55	0.52	0.49	0.44	0.47	0.35
S.D.	0.17	0.16	0.16	0.18	0.12	0.16	0.19	0.15	0.19	0.11	0.16	0.19

Table A-5.7: Item Difficulty Distribution and Average Item Difficulty for PSAT 8/9 Form 1

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
<0.03	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	2	1	0	0	0	0	0	0	1
0.14–0.26	2	2	6	4	0	2	0	1	1	4	2
0.27–0.45	9	8	15	9	8	3	1	5	3	7	5
0.46–0.65	19	20	9	8	16	9	11	13	7	3	4
0.66–0.81	8	10	5	6	5	3	5	5	5	2	3
0.82–0.92	3	0	1	1	0	1	0	0	0	0	1
>0.92	1	0	0	0	0	0	1	0	0	0	0
N	42	40	38	29	29	18	18	24	16	16	16
MEAN	0.56	0.55	0.42	0.49	0.52	0.52	0.64	0.55	0.54	0.39	0.47
S.D.	0.18	0.15	0.19	0.20	0.13	0.18	0.12	0.14	0.17	0.18	0.22

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Table A-5.8: Item Difficulty Distribution and Average Item Difficulty for PSAT 8/9 Form 2

Range of Difficulty	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
<0.03	0	0	0	0	0	0	0	0	0	0	0
0.03–0.13	0	0	4	1	0	0	0	0	0	3	1
0.14–0.26	3	1	4	1	4	1	1	1	0	2	1
0.27–0.45	10	14	12	10	10	4	3	10	4	4	5
0.46–0.65	15	14	9	10	9	10	7	10	4	4	3
0.66–0.81	11	9	7	4	6	2	6	2	7	3	4
0.82–0.92	3	2	2	3	0	1	1	1	1	0	2
>0.92	0	0	0	0	0	0	0	0	0	0	0
N	42	40	38	29	29	18	18	24	16	16	16
MEAN	0.57	0.55	0.44	0.53	0.48	0.52	0.58	0.49	0.63	0.41	0.50
S.D.	0.18	0.17	0.22	0.21	0.15	0.16	0.18	0.16	0.16	0.24	0.22

Table A-5.9: Item Discrimination Distribution and Average Item Discrimination for SAT Form 1

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Negative	0	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10–0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20–0.29	1	0	4	0	0	0	0	0	0	0	0	0
0.30–0.39	7	3	11	3	7	1	0	1	1	2	1	1
0.40–0.49	12	7	7	10	9	4	1	2	1	1	5	4
0.50–0.59	18	18	10	14	5	4	5	6	9	2	2	4
0.60–0.69	9	13	14	5	12	8	10	10	7	3	8	3
0.70–0.79	5	3	12	3	2	1	2	3	2	7	1	2
0.80–0.89	0	0	0	0	0	0	0	2	0	4	0	2
0.90–1	0	0	0	0	0	0	0	0	0	0	0	0
N	52	44	58	35	35	18	18	24	20	19	17	16
MEAN	0.52	0.56	0.53	0.52	0.53	0.57	0.60	0.62	0.59	0.68	0.56	0.59
S.D.	0.12	0.11	0.16	0.11	0.12	0.11	0.07	0.12	0.09	0.17	0.10	0.14

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Table A-5.10: Item Discrimination Distribution and Average Item Discrimination for SAT Form 2

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Negative	0	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10–0.19	1	1	0	0	0	0	0	0	0	0	0	0
0.20–0.29	0	0	5	0	0	1	0	0	1	0	0	0
0.30–0.39	6	8	4	4	4	0	0	2	1	2	0	1
0.40–0.49	17	11	10	9	8	5	6	8	1	3	1	0
0.50–0.59	21	16	17	17	16	6	7	6	11	2	5	5
0.60–0.69	7	8	15	4	6	4	5	8	6	8	6	7
0.70–0.79	0	0	5	0	1	2	0	0	0	4	4	3
0.80–0.89	0	0	1	0	0	0	0	0	0	0	0	0
0.90–1	0	0	0	0	0	0	0	0	0	0	0	0
N	52	44	57	34	35	18	18	24	20	19	16	16
MEAN	0.49	0.49	0.54	0.51	0.52	0.55	0.54	0.52	0.53	0.59	0.64	0.61
S.D.	0.10	0.11	0.13	0.08	0.09	0.11	0.09	0.10	0.10	0.13	0.10	0.10

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Table A-5.11: Item Discrimination Distribution and Average Item Discrimination for SAT Form 3

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Negative	0	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10–0.19	1	0	0	0	0	0	0	0	0	0	0	0
0.20–0.29	2	3	0	2	1	0	0	1	0	0	0	0
0.30–0.39	1	3	3	2	3	3	0	1	1	0	0	1
0.40–0.49	19	8	14	7	8	2	4	7	0	1	1	1
0.50–0.59	14	20	21	16	12	8	9	10	8	8	2	8
0.60–0.69	12	10	12	7	10	5	4	5	11	8	7	3
0.70–0.79	2	0	8	1	0	0	1	0	0	2	4	3
0.80–0.89	0	0	0	0	0	0	0	0	0	0	3	0
0.90–1	0	0	0	0	0	0	0	0	0	0	0	0
N	51	44	58	35	34	18	18	24	20	19	17	16
MEAN	0.52	0.51	0.56	0.52	0.52	0.53	0.56	0.51	0.60	0.60	0.66	0.59
S.D.	0.11	0.10	0.10	0.11	0.10	0.10	0.08	0.09	0.07	0.08	0.11	0.10

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Table A-5.12: Item Discrimination Distribution and Average Item Discrimination for PSAT/NMSQT and PSAT 10 Form 1

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Negative	0	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10–0.19	1	0	2	0	1	0	0	0	0	0	0	0
0.20–0.29	3	1	1	2	1	0	0	0	0	2	0	0
0.30–0.39	8	3	6	4	1	1	0	0	1	0	1	0
0.40–0.49	12	13	15	6	9	3	4	4	5	1	2	0
0.50–0.59	15	16	9	14	14	9	4	12	7	5	4	8
0.60–0.69	8	9	10	4	6	5	5	6	7	6	7	1
0.70–0.79	0	2	1	2	0	0	5	2	0	1	0	3
0.80–0.89	0	0	2	0	0	0	0	0	0	0	1	2
0.90–1	0	0	1	0	0	0	0	0	0	1	1	0
N	47	44	48	32	32	18	18	24	20	16	16	14
MEAN	0.48	0.53	0.53	0.51	0.51	0.55	0.61	0.57	0.55	0.57	0.61	0.63
S.D.	0.12	0.10	0.17	0.13	0.11	0.07	0.12	0.08	0.09	0.16	0.15	0.12

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Table A-5.13: Item Discrimination Distribution and Average Item Discrimination for PSAT/NMSQT and PSAT 10 Form 2

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Negative	0	0	0	0	0	0	0	0	0	0	0	0
0–0.09	1	0	0	0	1	0	0	0	0	0	0	0
0.10–0.19	1	1	1	0	0	0	0	0	0	0	0	0
0.20–0.29	4	2	2	2	0	0	0	1	1	1	0	0
0.30–0.39	4	4	3	5	2	3	1	0	1	0	2	1
0.40–0.49	18	14	13	8	10	4	2	5	4	0	0	2
0.50–0.59	13	16	14	12	11	5	6	8	13	5	4	4
0.60–0.69	5	7	10	3	6	6	6	9	1	9	6	3
0.70–0.79	1	0	1	0	2	0	3	1	0	1	2	2
0.80–0.89	0	0	3	2	0	0	0	0	0	0	1	1
0.90–1	0	0	1	0	0	0	0	0	0	0	1	1
N	47	44	48	32	32	18	18	24	20	16	16	14
MEAN	0.46	0.49	0.54	0.50	0.51	0.52	0.59	0.56	0.50	0.59	0.63	0.62
S.D.	0.13	0.11	0.16	0.13	0.12	0.10	0.10	0.10	0.09	0.11	0.14	0.16

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Table A-5.14: Item Discrimination Distribution and Average Item Discrimination for PSAT 8/9 Form 1

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Negative	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	1	0	0	0	0	0	0	0	0	0
0.10–0.19	0	1	0	0	0	0	0	0	0	0	0
0.20–0.29	4	3	3	2	1	1	0	0	1	0	1
0.30–0.39	4	3	1	4	4	0	0	1	3	2	0
0.40–0.49	9	14	13	7	9	5	1	7	4	0	2
0.50–0.59	11	11	14	7	9	7	7	9	4	9	7
0.60–0.69	14	6	2	7	6	5	9	7	3	4	4
0.70–0.79	0	1	3	1	0	0	1	0	1	1	0
0.80–0.89	0	0	0	1	0	0	0	0	0	0	0
0.90–1	0	0	2	0	0	0	0	0	0	0	2
N	42	40	38	29	29	18	18	24	16	16	16
MEAN	0.50	0.47	0.53	0.52	0.50	0.53	0.60	0.54	0.48	0.56	0.59
S.D.	0.13	0.13	0.15	0.14	0.10	0.11	0.07	0.08	0.13	0.10	0.16

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Table A-5.15: Item Discrimination Distribution and Average Item Discrimination for PSAT 8/9 Form 2

Range of Discrimination	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Negative	0	0	0	0	0	0	0	0	0	0	0
0–0.09	0	0	0	0	0	0	0	0	0	0	0
0.10–0.19	1	0	1	1	0	0	0	0	0	0	0
0.20–0.29	2	2	1	0	2	0	1	0	0	0	1
0.30–0.39	6	6	3	2	8	1	0	3	2	1	0
0.40–0.49	14	9	5	7	8	2	4	7	1	1	3
0.50–0.59	12	15	13	10	9	8	4	8	4	3	3
0.60–0.69	6	7	10	8	2	6	7	6	6	7	7
0.70–0.79	1	1	4	1	0	1	2	0	3	2	2
0.80–0.89	0	0	1	0	0	0	0	0	0	2	0
0.90–1	0	0	0	0	0	0	0	0	0	0	0
N	42	40	38	29	29	18	18	24	16	16	16
MEAN	0.49	0.50	0.55	0.53	0.45	0.55	0.56	0.52	0.59	0.63	0.59
S.D.	0.11	0.12	0.14	0.12	0.10	0.08	0.12	0.10	0.12	0.13	0.13

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Table A-5.16: DIF Summary Table for SAT Form 1

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	3	5.77		0	2	0	1	0	0
A	46	88.46		52	48	51	49	51	52
B−	2	3.85		0	1	0	1	1	0
C−	1	1.92		0	1	1	1	0	0
			N	52	52	52	52	52	52
			MEAN	−0.02	0.02	0.00	−0.05	−0.01	−0.01
			S.D.	0.39	0.57	0.40	0.49	0.32	0.20
			Minimum	−0.87	−2.15	−1.93	−1.74	−1.15	−0.85
			Maximum	0.77	1.18	0.80	1.25	0.53	0.43
Writing and Language	**Worst DIF**			**Focal Group**					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	1	2.27		0	1	0	1	0	0
A	41	93.18		43	42	44	42	44	44
B−	2	4.55		1	1	0	1	0	0
C−	0	0.00		0	0	0	0	0	0
			N	44	44	44	44	44	44
			MEAN	0.00	0.06	0.02	0.01	0.02	0.01
			S.D.	0.48	0.46	0.29	0.55	0.27	0.18
			Minimum	−1.31	−1.21	−0.69	−1.49	−0.50	−0.38
			Maximum	0.95	1.18	0.75	1.37	0.63	0.48

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Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	3	5.17		0	0	0	3	0	0
A	51	87.93		57	56	58	53	58	58
B−	4	6.90		1	2	0	2	0	0
C−	0	0.00		0	0	0	0	0	0
			N	58	58	58	58	58	58
			MEAN	−0.03	0.00	0.01	0.00	0.00	0.00
			S.D.	0.46	0.47	0.33	0.57	0.30	0.18
			Minimum	−1.23	−1.39	−0.92	−1.28	−0.98	−0.63
			Maximum	0.76	0.77	0.64	1.31	0.62	0.32

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Table A-5.17: DIF Summary Table for SAT Form 2

Reading	Worst DIF		Focal Group					
Category	Number of Items	% of Items	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00	0	0	0	0	0	0
B+	1	1.92	1	0	0	0	0	0
A	45	86.54	50	51	51	49	51	52
B−	6	11.54	1	1	1	3	1	0
C−	0	0.00	0	0	0	0	0	0
N			52	52	52	52	52	52
MEAN			0.04	0.04	0.02	−0.03	0.00	0.03
S.D.			0.52	0.50	0.36	0.45	0.33	0.22
Minimum			−1.43	−1.04	−1.01	−1.29	−1.07	−0.48
Maximum			1.20	0.98	0.81	0.77	0.79	0.53
Writing and Language	**Worst DIF**		**Focal Group**					
Category	Number of Items	% of Items	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00	0	0	0	0	0	0
B+	1	2.27	0	1	0	1	0	0
A	41	93.18	43	42	44	41	44	44
B−	2	4.55	1	1	0	2	0	0
C−	0	0.00	0	0	0	0	0	0
N			44	44	44	44	44	44
MEAN			−0.01	0.05	0.03	0.00	0.02	0.02
S.D.			0.44	0.43	0.28	0.52	0.21	0.17
Minimum			−1.12	−1.03	−0.62	−1.45	−0.44	−0.41
Maximum			0.81	1.07	0.63	1.19	0.60	0.46

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Math	Worst DIF		Focal Group					
Category	Number of Items	% of Items	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00	0	0	0	0	0	0
B+	1	1.72	0	1	0	0	0	0
A	54	94.74	57	56	57	55	57	57
B−	2	3.45	0	0	0	2	0	0
C−	0	0.00	0	0	0	0	0	0
N			57	57	57	57	57	57
MEAN			−0.04	0.00	0.00	−0.02	0.00	0.01
S.D.			0.44	0.47	0.32	0.50	0.33	0.18
Minimum			−0.99	−0.96	−0.71	−1.16	−0.93	−0.52
Maximum			0.99	1.08	0.56	0.88	0.75	0.48

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Table A-5.18: DIF Summary Table for SAT Form 3

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	1	1.96		1	0	0	0	0	0
A	45	88.24		48	50	51	49	51	51
B−	5	9.80		2	1	0	2	0	0
C−	0	0.00		0	0	0	0	0	0
			N	51	51	51	51	51	51
			MEAN	0.00	0.01	−0.01	−0.02	−0.01	0.00
			S.D.	0.46	0.47	0.35	0.38	0.26	0.20
			Minimum	−1.39	−1.02	−0.84	−1.22	−0.79	−0.39
			Maximum	1.09	0.98	0.66	0.92	0.46	0.45
Writing and Language	**Worst DIF**			**Focal Group**					
Category	**Number of Items**	**% of Items**	**Summary Statistics**	**Female**	**Black**	**Hispanic**	**Asian**	**AIAN**	**Two or More Races**
C+	0	0.00		0	0	0	0	0	0
B+	3	6.82		0	2	0	3	0	0
A	39	88.64		44	41	44	39	44	44
B−	2	4.55		0	1	0	2	0	0
C−	0	0.00		0	0	0	0	0	0
			N	44	44	44	44	44	44
			MEAN	−0.01	0.00	0.01	−0.05	0.00	−0.01
			S.D.	0.35	0.44	0.29	0.57	0.25	0.19
			Minimum	−0.71	−1.08	−0.70	−1.40	−0.69	−0.41
			Maximum	0.64	1.26	0.67	1.45	0.57	0.54

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Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	1	1.72		0	0	0	1	0	0
A	50	86.21		55	56	57	54	58	58
B−	6	10.34		3	1	1	3	0	0
C−	1	1.72		0	1	0	0	0	0
			N	58	58	58	58	58	58
			MEAN	−0.04	0.02	0.01	−0.04	0.00	0.00
			S.D.	0.49	0.45	0.40	0.62	0.31	0.19
			Minimum	−1.14	−1.50	−1.01	−1.42	−0.76	−0.52
			Maximum	0.92	0.72	0.79	1.06	0.77	0.32

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Table A-5.19: DIF Summary Table for PSAT/NMSQT and PSAT 10 Form 1

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	0	0.00		0	0	0	0	0	0
A	46	97.87		47	47	47	46	47	47
B−	1	2.13		0	0	0	1	0	0
C−	0	0.00		0	0	0	0	0	0
			N	47	47	47	47	47	47
			MEAN	0.01	0.04	0.05	−0.01	−0.01	0.03
			S.D.	0.39	0.39	0.32	0.34	0.29	0.16
			Minimum	−0.93	−0.97	−0.90	−1.09	−0.82	−0.38
			Maximum	0.77	0.73	0.70	0.83	0.50	0.33
Writing and Language	**Worst DIF**			**Focal Group**					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	3	6.82		0	1	0	2	0	0
A	40	90.91		43	43	44	42	44	44
B−	1	2.27		1	0	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	44	44	44	44	44	44
			MEAN	0.02	0.06	0.06	0.04	0.00	0.03
			S.D.	0.45	0.42	0.32	0.50	0.20	0.15
			Minimum	−1.21	−0.75	−0.82	−0.97	−0.40	−0.35
			Maximum	0.94	1.08	0.64	1.28	0.42	0.32

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Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	2	4.17		1	0	0	1	0	0
A	43	89.58		47	47	48	45	48	48
B–	3	6.25		0	1	0	2	0	0
C–	0	0.00		0	0	0	0	0	0
			N	48	48	48	48	48	48
			MEAN	−0.04	0.01	0.02	0.00	−0.01	0.01
			S.D.	0.46	0.45	0.33	0.50	0.39	0.15
			Minimum	−0.88	−1.07	−0.86	−1.16	−0.97	−0.33
			Maximum	1.26	0.68	0.57	1.24	0.58	0.24

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Table A-5.20 DIF Summary Table for PSAT/NMSQT and PSAT 10 Form 2

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	1	2.13		0	0	0	1	0	0
B+	0	0.00		0	0	1	0	0	0
A	46	97.87		47	47	46	46	47	47
B−	0	0.00		0	0	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	47	47	47	47	47	47
			MEAN	0.02	0.09	0.07	0.04	0.02	0.03
			S.D.	0.37	0.39	0.30	0.40	0.33	0.20
			Minimum	−0.75	−0.92	−0.75	−0.88	−0.92	−0.47
			Maximum	0.90	0.78	1.15	1.71	0.61	0.59
Writing and Language	**Worst DIF**			**Focal Group**					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	2	4.55		0	0	0	2	0	0
A	39	88.64		43	44	44	39	44	44
B−	2	4.55		1	0	0	2	0	0
C−	1	2.27		0	0	0	1	0	0
			N	44	44	44	44	44	44
			MEAN	0.01	0.08	0.06	0.03	0.02	0.03
			S.D.	0.37	0.41	0.31	0.59	0.22	0.17
			Minimum	−1.17	−0.85	−0.80	−1.73	−0.41	−0.28
			Maximum	0.97	0.66	0.55	1.02	0.77	0.36

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Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	2	4.17		0	0	0	2	0	0
A	41	85.42		47	43	48	46	48	48
B−	5	10.42		1	5	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	48	48	48	48	48	48
			MEAN	−0.02	−0.01	0.03	0.03	0.01	0.01
			S.D.	0.44	0.54	0.27	0.55	0.33	0.16
			Minimum	−1.14	−1.36	−0.69	−0.92	−0.85	−0.47
			Maximum	0.82	0.66	0.47	1.18	0.69	0.28

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Table A-5.21: DIF Summary Table for PSAT 8/9 Form 1

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	1	2.38		1	0	0	0	0	0
A	40	95.24		40	42	42	42	42	42
B−	1	2.38		1	0	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	42	42	42	42	42	42
			MEAN	0.06	0.09	0.10	0.09	−0.06	0.09
			S.D.	0.49	0.31	0.39	0.42	0.34	0.23
			Minimum	−1.17	−0.63	−0.98	−0.71	−0.83	−0.42
			Maximum	1.06	0.70	0.73	0.93	0.57	0.54
Writing and Language	**Worst DIF**			**Focal Group**					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	2	5.00		0	1	0	1	0	0
A	37	92.50		40	39	40	38	40	40
B−	1	2.50		0	0	0	1	0	0
C−	0	0.00		0	0	0	0	0	0
			N	40	40	40	40	40	40
			MEAN	0.01	0.05	0.06	0.05	−0.03	0.03
			S.D.	0.31	0.45	0.39	0.49	0.25	0.19
			Minimum	−0.55	−0.92	−0.88	−1.38	−0.73	−0.37
			Maximum	0.75	1.08	0.64	1.19	0.31	0.37

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Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	0	0.00		0	0	0	0	0	0
A	37	97.37		38	37	38	38	38	38
B−	1	2.63		0	1	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	38	38	38	38	38	38
			MEAN	−0.04	0.02	0.05	0.02	−0.03	0.02
			S.D.	0.33	0.47	0.29	0.36	0.38	0.19
			Minimum	−0.90	−1.18	−0.66	−0.96	−0.79	−0.46
			Maximum	0.63	0.59	0.54	0.73	0.80	0.36

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Table A-5.22: DIF Summary Table for PSAT 8/9 Form 2

Reading	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	1	2.38		0	1	0	0	0	0
A	40	95.24		41	41	42	42	42	42
B−	1	2.38		1	0	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	42	42	42	42	42	42
			MEAN	0.04	0.07	0.12	0.06	0.01	0.04
			S.D.	0.50	0.42	0.28	0.42	0.21	0.23
			Minimum	−1.02	−0.60	−0.40	−0.61	−0.40	−0.37
			Maximum	0.94	1.21	0.94	0.87	0.51	0.74
Writing and Language	**Worst DIF**			**Focal Group**					
Category	**Number of Items**	**% of Items**	**Summary Statistics**	**Female**	**Black**	**Hispanic**	**Asian**	**AIAN**	**Two or More Races**
C+	0	0.00		0	0	0	0	0	0
B+	1	2.50		1	0	0	0	0	0
A	38	95.00		39	40	40	39	40	40
B−	1	2.50		0	0	0	1	0	0
C−	0	0.00		0	0	0	0	0	0
			N	40	40	40	40	40	40
			MEAN	0.05	0.07	0.10	0.08	0.00	0.03
			S.D.	0.43	0.38	0.27	0.47	0.21	0.16
			Minimum	−0.94	−0.78	−0.76	−1.15	−0.58	−0.36
			Maximum	1.05	0.70	0.59	0.91	0.36	0.27

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Table A-5.22 continued from previous page

Math	Worst DIF			Focal Group					
Category	Number of Items	% of Items	Summary Statistics	Female	Black	Hispanic	Asian	AIAN	Two or More Races
C+	0	0.00		0	0	0	0	0	0
B+	0	0.00		0	0	0	0	0	0
A	36	94.74		37	36	38	38	38	38
B−	2	5.26		1	2	0	0	0	0
C−	0	0.00		0	0	0	0	0	0
			N	38	38	38	38	38	38
			MEAN	−0.03	−0.03	0.04	0.04	0.02	0.02
			S.D.	0.42	0.50	0.25	0.47	0.32	0.15
			Minimum	−1.40	−1.55	−0.51	−0.62	−0.70	−0.31
			Maximum	0.90	0.72	0.55	0.84	0.53	0.37

Table A-5.23: Number of Questions Reviewed for Development of Skills Insight

	PSAT 8/9	PSAT/NMSQT and PSAT 10	SAT
Reading	42	47	52
Writing and Language	40	44	44
Math	38	48	58
Total questions/form	120	139	154
Number of forms	2	6	22
Total number of questions	240	834	3,388

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Table A-5.24: Percentage Agreement by Experts in External Review of Skills Insight

	Skills Insight Statements	Questions as Exemplars	Suggestions for Improvement
Reading	75%	92%	68%
Writing and Language	79%	85%	66%
Math	79%	98%	59%

Exhibit A-5.1

p -Values and Deltas

For a dichotomously-scored item, the *p*-value denotes the average item score and the proportion correct,

$$\varphi_i = \frac{1}{N_{reached,i}} \sum_t x_{it}$$

where x_{it} *indicates the correct (= 1) and incorrect (= 0) scores on item i* for the t^{th} *test taker. For the p*-values reported in this manual, $N_{reached,i}$ *is the number of test takers who reached item i* and not necessarily the total number of test takers (i.e., the *p*-values are referred to as "P-Pluses" rather than "P-Totals").

Item *p*-values are often transformed into "deltas," which are normally distributed with a mean of 13 and standard deviation of 4,

$$\Delta_i = 13 - 4\Phi^{-1}\left(\varphi_i\right)$$

where $\Phi^{-1}(\varphi_i)$ represents the inverse of the standard normal cumulative distribution corresponding to φ_ith percentile. Deltas differ from *p*-values in that larger delta values indicate greater item difficulty, and the two sets of item deltas from two examinee groups are more likely to be linearly related than the corresponding sets of item *p*-values.

Equated Deltas and *p*-Values

In current item analysis practice described in Section 3.2 in Chapter 3 and Section 5.1 in Chapter 5, the *p*-values and deltas for all items are converted to a common scale so that all item difficulties are based on the same reference group of examinees. These conversions involve obtaining two sets of *p*-values for two examinee groups (1 and 2, where 2 is the reference group), transforming both sets of *p*-values into deltas, and exploiting the linear relationship of the two sets of deltas with a linear equating function (e.g., Section 6.2 in Chapter 6). The linear equating function for converting the item delta of group 1 to the scale (i.e., mean and standard deviation) of the deltas for group 2 for item *i* can be expressed as

$$l_2\left(\Delta_{i,1}\right) = \overline{\Delta_2} + \frac{SD_{\Delta_2}}{SD_{\Delta_1}}\left[\Delta_{i,1} - \overline{\Delta_1}\right]$$

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where the $\overline{\Delta}$s and SD_{Δ}s *denote the means and standard deviations estimated from two groups of deltas for the same set of items. Finally, equated p*-values can be obtained by applying the inverse of the delta transformation to the linearly equated deltas,

$$p_{i,2} = \Phi\left[\frac{13 - l_2\left(\Delta_{i,1}\right)}{4}\right]$$

r-Biserial Correlation

The formula for the *r*-biserial correlation is (Lord & Novick, 1968):

$$r - biseria\,l_{i,Y} = \left(\frac{\overline{Y}_{x_i=1} - \overline{Y}_{x_i=0}}{SD_y}\right)\left(\frac{\varphi_i\left(1-\varphi_i\right)}{h}\right)$$

where

$\overline{Y}_{x_i=1}$ is the criterion score average for students answering item *i* correctly,

$\overline{Y}_{x_i=0}$ is the criterion score average for students answering item *i* incorrectly,

SD_y is the standard deviation of the criterion score,

φ_i is the proportion of students answering item *i* correctly (i.e., *p*-value), and

$h = \frac{e^{-u^2/2}}{\sqrt{2\pi}}$ where *u* is defined such that $Pr\left[Z \geq u \middle| Z \sim N(0,1)\right] = \varphi_i$

MH D-DIF

Based on the formulas from Dorans and Holland (1993), the Mantel-Haenszel D-DIF (MH D-DIF) statistic is calculated for subgroups of gender and ethnicity/race with the following formula

$$MH\ D - DIF = -2.35\ln\left[\alpha_{MH}\right]$$

where α_{MH} is an estimate of the odds ratio. The odds ratio is calculated as

$$\alpha_{MH} = \frac{\sum_m R_{rm}\frac{W_{fm}}{N_{tm}}}{\sum_m R_{fm}\frac{W_{rm}}{N_{tm}}}$$

where

R_{rm} *is the number of students answering correctly in the reference group at ability level m*,

W_{fm} *is the number of students answering incorrectly in the focal group at ability level m*,

N_{tm} *is the number of students in the total group at ability level m*,

R_{fm} *is the number of students answering correctly in the focal group at ability level m*, and

W_{rm} *is the number of students answering incorrectly in the reference group at ability level m*.

MH D-DIF values that aren't statistically different from zero are classified as *A* items. Items that exceed 1.5 in absolute value and are significantly larger than 1.0 in absolute value are classified as *C* items. The remaining values are classified as *B* items. Items classified as *C* items are reviewed for potential exclusion from scoring.

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APPENDIX 6

Psychometrics

Table A-6.1: Unweighted Scaling, Weighted Scaling, and SAT Cohort Samples by Subgroups

Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
Females	52	53	53
Juniors	67	33	33
Ethnicity			
American Indian or Alaska Native	1	1	1
Asian, Asian American, or Pacific Islander	10	12	12
Black or African American	14	13	13
Mexican or Mexican American	10	7	7
Puerto Rican	1	2	2
Other Hispanic, Latino, or Latin American	10	8	9
White	48	51	51
Other	3	4	4
Region			
MRO	14	8	6
MSRO	3	26	25
NERO	0	9	8
SRO	25	22	21
SWRO	36	12	11
WRO	23	23	22

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Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
First Language			
English only	71	69	69
English and another language	16	16	16
Another language	13	12	12
Best Language			
English only	71	75	75
English and another language	22	18	19
Another language	3	4	4
Desired College Degree			
Specialized training or certificate program	3	1	1
Two-year associate of arts or sciences degree	4	1	1
Bachelor's degree	24	26	26
Master's degree	28	25	26
Doctoral or related degree	21	18	19
Other	2	1	1
Undecided	17	13	13
Interested in Attending Type of College			
Four-year college or university	80	79	79
Two-year community or junior college	19	10	11
Vocational/technical school	4	2	2
Undecided	8	5	5

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Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
Mother's Highest Ed			
Grade school	4	3	3
Some high school	5	5	5
High school diploma or equivalent	15	16	16
Business or trade school	2	2	2
Some college	12	14	14
Associate or two-year degree	7	9	9
Bachelor's or four-year degree	18	24	24
Some graduate or professional school	3	3	3
Graduate or professional degree	8	13	13
Father's Highest Ed			
Grade school	3	3	3
Some high school	6	6	6
High school diploma or equivalent	15	18	18
Business or trade school	3	3	3
Some college	10	12	12
Associate or two-year degree	5	5	5
Bachelor's or four-year degree	15	20	21
Some graduate or professional school	2	2	2
Graduate or professional degree	10	16	16

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Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
Average High School GPA			
A+	4	6	6
A	18	18	18
A-	19	18	18
B+	19	17	17
B	18	15	15
B-	9	8	8
C+	7	5	5
C	3	3	3
C-	1	1	1
D+	0	0	0
D	0	0	0
E or F	0	0	0
High School Math: AP/Honors			
AP/Honors	33	30	30
High School English			
High School English: AP/Honors	39	34	34

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Table A-6.2: Summary Statistics of the SAT Scale Scores

Score Level	Score	# of Items	Alpha Reliability	RMS (CSEM)	Scale Score Reliability from RMS (CSEM)	Mean	SD	Skew	Kurt	Min Possible (Observed)	Max Possible (Observed)
Total	Total	154	—	40	0.96	1000.3	192.5	0.32	−0.5	400 (550)	1600 (1540)
Section	Math	58	—	31	0.90	500.2	99.9	0.36	−0.1	200 (240)	800 (800)
Section	ERW	96	—	26	0.94	500.1	104.2	0.32	−0.6	200 (250)	800 (780)
Test	Reading	52	0.89	1.8	0.89	25.0	5.4	0.43	−0.3	10 (12)	40 (39)
Test	Writing	44	0.89	1.8	0.89	25.0	5.5	0.14	−0.6	10 (10)	40 (40)
Test	Math	58	0.90	1.6	0.90	25.0	5.0	0.36	−0.1	10 (12)	40 (40)
Cross-test	Science	35	0.87	1.9	0.86	25.0	5.0	0.33	−0.4	10 (12)	40 (40)
Cross-test	History	35	0.83	2.2	0.83	24.9	5.5	0.39	−0.5	10 (11)	40 (40)
Subscore	COE	18	0.76	1.3	0.75	8.0	2.6	0.36	−0.5	1 (1)	15 (15)
Subscore	WIC	18	0.74	1.6	0.75	8.2	3.2	−0.25	−0.7	1 (1)	15 (15)
Subscore	SEC	20	0.80	1.4	0.81	8.0	3.3	0.09	−0.6	1 (1)	15 (15)
Subscore	EOI	24	0.83	1.2	0.82	7.9	2.8	0.19	−0.6	1 (1)	15 (15)
Subscore	HOA	19	0.75	1.4	0.74	8.0	2.7	0.35	−0.2	1 (1)	15 (15)
Subscore	PAM	16	0.70	1.6	0.69	7.8	2.9	0.37	−0.1	1 (1)	15 (15)
Subscore	PSD	17	0.80	1.4	0.81	8.2	3.2	−0.13	−0.8	1 (1)	15 (15)

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Table A-6.3.1: Descriptive Statistics for Equating Sample

	Form A		Form B	
	Frequency	**Percent**	**Frequency**	**Percent**
11th Grade	3,176	67.68	3,065	67.07
12th Grade	1,517	32.32	1,505	32.93
Female	2,422	51.93	2,392	52.70
Male	2,242	48.07	2,147	47.30
		Frequency missing = 29		Frequency missing = 31
No response	14	0.31	19	0.44
American Indian	49	1.1	49	1.14
Asian	431	9.68	399	9.25
Black	634	14.24	608	14.09
Mexican	441	9.91	500	11.59
Puerto Rican	45	1.01	31	0.72
Other Hispanic	465	10.44	446	10.34
White	2,105	47.28	2,027	46.99
Other	147	3.3	124	2.87
I don't wish to respond	121	2.72	111	2.57
		Frequency missing = 241		Frequency missing = 256
English only	3,123	70.54	3,062	71.16
English and another language	722	16.31	718	16.69
Another language	582	13.15	523	12.15
		Frequency missing = 266		Frequency missing = 267

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Table A-6.3.2: Sample Raw-to-Scale Conversions for Math Section; Reading and Writing and Language Scores for SAT Form (Form B in Figure 6.1 of Section 6.2 Equating)

Mathematics		Reading		Writing and Language	
Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
0	200	0	10	0	10
1	200	1	10	1	10
2	210	2	10	2	10
3	220	3	11	3	11
4	230	4	11	4	11
5	250	5	12	5	12
6	260	6	13	6	13
7	280	7	14	7	13
8	290	8	15	8	14
9	300	9	15	9	15
10	320	10	16	10	16
11	330	11	17	11	17
12	340	12	17	12	17
13	350	13	18	13	18
14	360	14	19	14	19
15	370	15	19	15	19
16	380	16	20	16	20
17	390	17	21	17	21
18	400	18	21	18	21
19	410	19	22	19	22
20	420	20	22	20	23
21	430	21	23	21	23
22	440	22	23	22	24
23	450	23	24	23	25

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Mathematics		Reading		Writing and Language	
Raw Score	**Scale Score**	**Raw Score**	**Scale Score**	**Raw Score**	**Scale Score**
24	460	24	24	24	25
25	470	25	25	25	26
26	480	26	25	26	26
27	490	27	26	27	27
28	500	28	26	28	27
29	510	29	26	29	28
30	520	30	27	30	28
31	530	31	27	31	29
32	530	32	28	32	29
33	540	33	28	33	30
34	550	34	29	34	31
35	570	35	29	35	31
36	580	36	30	36	32
37	590	37	30	37	32
38	600	38	31	38	33
39	610	39	31	39	34
40	620	40	32	40	36
41	630	41	32	41	37
42	650	42	33	42	38
43	660	43	33	43	39
44	670	44	34	44	40
45	680	45	35		
46	690	46	35		
47	700	47	36		

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Mathematics		Reading		Writing and Language	
Raw Score	**Scale Score**	**Raw Score**	**Scale Score**	**Raw Score**	**Scale Score**
48	710	48	36		
49	720	49	37		
50	730	50	38		
51	740	51	39		
52	750	52	40		
53	760				
54	770				
55	770				
56	780				
57	790				
58	800				

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Table A-6.3.3: Sample Raw-to-Scale Conversions for Analysis in Science and Analysis in History/Social Studies Cross-Test Scores for SAT Form (Form B in Figure 6.1 of Section 6.2 Equating)

Analysis in Science		Analysis in History/Social Studies	
Raw Score	**Scale Score**	**Raw Score**	**Scale Score**
0	10	0	10
1	11	1	10
2	12	2	1
3	13	3	12
4	14	4	13
5	15	5	14
6	16	6	15
7	17	7	16
8	18	8	17
9	19	9	18
10	20	10	19
11	21	11	20
12	21	12	21
13	22	13	22
14	23	14	23
15	24	15	24
16	24	16	25
17	25	17	25
18	26	18	26
19	27	19	27
20	27	20	28
21	28	21	28
22	29	22	29

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Analysis in Science		Analysis in History/Social Studies	
Raw Score	**Scale Score**	**Raw Score**	**Scale Score**
23	29	23	30
24	30	24	30
25	31	25	31
26	32	26	32
27	32	27	33
28	33	28	34
29	34	29	35
30	35	30	35
31	36	31	36
32	37	32	37
33	38	33	38
34	39	34	39
35	40	35	40

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Table A-6.3.4: Sample Raw-to-Scale Conversions for Command of Evidence, Relevant Words in Context, and Expression of Ideas Subscores for SAT Form (Form B in Figure 6.1 of Section 6.2 Equating)

Command of Evidence		Relevant Words in Context		Expression of Ideas	
Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
0	1	0	1	0	1
1	2	1	1	1	1
2	3	2	1	2	1
3	4	3	1	3	2
4	5	4	2	4	3
5	6	5	3	5	4
6	7	6	4	6	4
7	7	7	5	7	5
8	8	8	6	8	6
9	9	9	7	9	6
10	9	10	7	10	7
11	10	11	8	11	8
12	11	12	9	12	8
13	11	13	10	13	9
14	12	14	11	14	9
15	13	15	12	15	9
16	14	16	13	16	10
17	14	17	14	17	10
18	15	18	15	18	11
				19	11
				20	12
				21	12
				22	13
				23	14
				24	15

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Table A-6.3.5: Sample Raw-to-Scale Conversions for Standard English Conventions, Heart of Algebra, Problem Solving and Data Analysis, and Passport to Advanced Mathematics Subscores for SAT Form (Form B in Figure 6.1 of Section 6.2 Equating)

Standard English Conventions		Heart of Algebra		Problem Solving and Data Analysis		Passport to Advanced Mathematics	
Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
0	1	0	1	0	1	0	1
1	1	1	1	1	1	1	2
2	1	2	2	2	1	2	4
3	1	3	3	3	2	3	5
4	2	4	4	4	3	4	6
5	3	5	4	5	4	5	7
6	4	6	5	6	5	6	8
7	4	7	5	7	6	7	9
8	5	8	6	8	7	8	10
9	6	9	6	9	8	9	11
10	7	10	7	10	9	10	12
11	7	11	8	11	10	11	12
12	8	12	8	12	11	12	13
13	9	13	9	13	12	13	14
14	9	14	10	14	13	14	14
15	10	15	11	15	14	15	15
16	11	16	12	16	15	16	15
17	12	17	13	17	15		
18	13	18	14				
19	14	19	15				
20	15						

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Table A-6.4.1: SAT Total Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
400	1– (<.01)	1– (<.01)	710	4 (.14)	2 (.14)	1020	52 (.34)	38 (.34)	1330	93 (.18)	89 (.22)
410	1– (<.01)	1– (<.01)	720	5 (.15)	2 (.15)	1030	54 (.34)	40 (.34)	1340	94 (.17)	90 (.21)
420	1– (<.01)	1– (<.01)	730	6 (.16)	3 (.15)	1040	56 (.34)	42 (.34)	1350	94 (.16)	91 (.21)
430	1– (<.01)	1– (.01)	740	7 (.17)	3 (.16)	1050	58 (.33)	44 (.34)	1360	95 (.15)	91 (.20)
440	1– (<.01)	1– (.01)	750	8 (.19)	4 (.17)	1060	60 (.33)	46 (.34)	1370	96 (.14)	92 (.20)
450	1– (<.01)	1– (.01)	760	9 (.20)	4 (.18)	1070	61 (.33)	48 (.34)	1380	96 (.13)	93 (.19)
460	1– (<.01)	1– (.01)	770	10 (.21)	5 (.19)	1080	63 (.33)	50 (.34)	1390	97 (.13)	94 (.18)
470	1– (<.01)	1– (.02)	780	11 (.22)	6 (.20)	1090	65 (.32)	52 (.34)	1400	97 (.12)	94 (.18)
480	1– (<.01)	1– (.02)	790	13 (.23)	7 (.21)	1100	67 (.32)	55 (.34)	1410	97 (.11)	95 (.17)
490	1– (<.01)	1– (.02)	800	14 (.24)	7 (.22)	1110	69 (.32)	57 (.34)	1420	98 (.10)	95 (.17)
500	1– (<.01)	1– (.02)	810	16 (.25)	8 (.23)	1120	70 (.31)	58 (.34)	1430	98 (.10)	96 (.16)
510	1– (<.01)	1– (.02)	820	17 (.26)	9 (.23)	1130	71 (.31)	60 (.34)	1440	98 (.09)	96 (.16)
520	1– (.01)	1– (.02)	830	18 (.27)	10 (.24)	1140	73 (.30)	62 (.33)	1450	99 (.08)	97 (.15)
530	1– (.01)	1– (.02)	840	20 (.27)	11 (.24)	1150	74 (.30)	64 (.33)	1460	99 (.08)	97 (.14)
540	1– (.01)	1– (.03)	850	21 (.28)	12 (.25)	1160	76 (.29)	65 (.32)	1470	99 (.07)	98 (.14)
550	1– (.01)	1– (.03)	860	23 (.29)	13 (.26)	1170	77 (.29)	67 (.32)	1480	99 (.07)	98 (.13)
560	1– (.02)	1– (.03)	870	24 (.29)	14 (.26)	1180	78 (.28)	69 (.31)	1490	99 (.06)	98 (.12)
570	1– (.02)	1– (.04)	880	26 (.30)	15 (.27)	1190	80 (.28)	71 (.31)	1500	99 (.06)	98 (.11)
580	1– (.03)	1– (.04)	890	27 (.30)	16 (.28)	1200	81 (.27)	72 (.30)	1510	99 (.05)	99 (.10)
590	1– (.03)	1– (.04)	900	29 (.31)	18 (.28)	1210	82 (.26)	74 (.29)	1520	99+ (.04)	99 (.10)
600	1– (.04)	1– (.05)	910	31 (.32)	19 (.29)	1220	83 (.26)	76 (.29)	1530	99+ (.04)	99 (.09)
610	1– (.04)	1– (.05)	920	33 (.32)	20 (.30)	1230	84 (.25)	77 (.28)	1540	99+ (.03)	99 (.07)
620	1– (.05)	1– (.06)	930	35 (.32)	22 (.30)	1240	85 (.24)	78 (.28)	1550	99+ (.02)	99+ (.06)
630	1 (.05)	1– (.07)	940	36 (.33)	24 (.31)	1250	86 (.24)	80 (.27)	1560	99+ (.02)	99+ (.05)
640	1 (.06)	1– (.07)	950	38 (.33)	25 (.31)	1260	87 (.23)	81 (.27)	1570	99+ (.01)	99+ (.04)
650	1 (.07)	1 (.08)	960	40 (.33)	27 (.32)	1270	88 (.22)	82 (.26)	1580	99+ (<.01)	99+ (.02)
660	1 (.08)	1 (.09)	970	42 (.33)	29 (.32)	1280	89 (.21)	83 (.25)	1590	99+ (<.01)	99+ (.01)
670	2 (.09)	1 (.10)	980	44 (.34)	30 (.32)	1290	90 (.21)	85 (.25)	1600	99+ (<.01)	99+ (<.01)
680	2 (.10)	1 (.11)	990	46 (.34)	32 (.33)	1300	91 (.20)	86 (.24)			
690	3 (.12)	2 (.12)	1000	48 (.34)	34 (.33)	1310	92 (.19)	87 (.23)			
700	4 (.13)	2 (.13)	1010	50 (.34)	36 (.34)	1320	93 (.18)	88 (.23)			

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Table A-6.4.2: SAT Evidence-Based Reading and Writing (ERW), Math Section (MSS), and Derived Math Test Score (MTS) Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	ERW		MSS		MTS			ERW		MSS		MTS		
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
200	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	10	1– (<.01)	1– (<.01)	380	11 (.21)	6 (.21)	10 (.21)	5 (.20)	19	10 (.21)	5 (.20)
210	1– (<.01)	1– (.01)	1– (<.01)	1– (<.01)	10.5	1– (<.01)	1– (<.01)	390	13 (.23)	7 (.22)	13 (.23)	7 (.21)	19.5	13 (.23)	7 (.21)
220	1– (<.01)	1– (.01)	1– (<.01)	1– (.01)	11	1– (<.01)	1– (.01)	400	16 (.25)	9 (.24)	15 (.24)	8 (.23)	20	15 (.24)	8 (.23)
230	1– (.01)	1– (.02)	1– (<.01)	1– (.01)	11.5	1– (<.01)	1– (.01)	410	19 (.27)	11 (.25)	17 (.26)	10 (.24)	20.5	17 (.26)	10 (.24)
240	1– (.01)	1– (.03)	1– (.01)	1– (.01)	12	1– (.01)	1– (.01)	420	22 (.28)	13 (.27)	20 (.27)	12 (.26)	21	20 (.27)	12 (.26)
250	1– (.01)	1– (.03)	1– (.01)	1– (.02)	12.5	1– (.01)	1– (.02)	430	24 (.29)	15 (.28)	23 (.28)	14 (.27)	21.5	23 (.28)	14 (.27)
260	1– (.02)	1– (.04)	1– (.02)	1– (.03)	13	1– (.02)	1– (.03)	440	28 (.30)	17 (.29)	25 (.30)	16 (.28)	22	25 (.30)	16 (.28)
270	1– (.03)	1– (.04)	1– (.03)	1– (.04)	13.5	1– (.03)	1– (.04)	450	31 (.31)	20 (.30)	29 (.31)	18 (.29)	22.5	29 (.31)	18 (.29)
280	1– (.03)	1– (.05)	1– (.04)	1– (.05)	14	1– (.04)	1– (.05)	460	34 (.32)	22 (.31)	32 (.32)	21 (.30)	23	32 (.32)	21 (.30)
290	1– (.04)	1– (.06)	1– (.04)	1– (.05)	14.5	1– (.04)	1– (.05)	470	38 (.33)	25 (.32)	36 (.32)	24 (.32)	23.5	36 (.32)	24 (.32)
300	1 (.05)	1– (.07)	1 (.06)	1 (.07)	15	1 (.06)	1 (.07)	480	41 (.33)	28 (.32)	40 (.33)	27 (.33)	24	40 (.33)	27 (.33)
310	1 (.06)	1 (.08)	1 (.08)	1 (.08)	15.5	1 (.08)	1 (.08)	490	44 (.33)	31 (.33)	44 (.33)	30 (.33)	24.5	44 (.33)	30 (.33)
320	2 (.08)	1 (.09)	2 (.09)	1 (.10)	16	2 (.09)	1 (.10)	500	48 (.34)	35 (.34)	47 (.34)	34 (.34)	25	47 (.34)	34 (.34)
330	2 (.10)	1 (.11)	3 (.11)	1 (.11)	16.5	3 (.11)	1 (.11)	510	51 (.34)	38 (.34)	52 (.33)	40 (.34)	25.5	52 (.33)	40 (.34)
340	3 (.12)	2 (.13)	4 (.14)	2 (.14)	17	4 (.14)	2 (.14)	520	55 (.34)	42 (.35)	57 (.33)	45 (.35)	26	57 (.33)	45 (.35)
350	5 (.15)	3 (.15)	5 (.16)	3 (.15)	17.5	5 (.16)	3 (.15)	530	58 (.33)	45 (.35)	61 (.32)	49 (.35)	26.5	61 (.32)	49 (.35)
360	7 (.17)	3 (.17)	7 (.17)	3 (.16)	18	7 (.17)	3 (.16)	540	62 (.33)	49 (.35)	65 (.32)	53 (.35)	27	65 (.32)	53 (.35)
370	9 (.19)	5 (.19)	9 (.19)	4 (.18)	18.5	9 (.19)	4 (.18)	550	65 (.32)	52 (.35)	68 (.31)	57 (.35)	27.5	68 (.31)	57 (.35)

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	ERW		MSS		MTS			ERW			MSS		MTS		
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
560	68 (.32)	56 (.35)	71 (.31)	60 (.34)	28	71 (.31)	60 (.34)	690	96 (.14)	92 (.20)	94 (.16)	91 (.21)	34.5	94 (.16)	91 (.21)
570	71 (.31)	60 (.34)	73 (.30)	64 (.34)	28.5	73 (.30)	64 (.34)	700	97 (.12)	94 (.19)	95 (.14)	92 (.20)	35	95 (.14)	92 (.20)
580	74 (.30)	63 (.34)	76 (.29)	67 (.33)	29	76 (.29)	67 (.33)	710	97 (.11)	95 (.18)	96 (.13)	94 (.19)	35.5	96 (.13)	94 (.19)
590	76 (.29)	66 (.33)	79 (.28)	70 (.32)	29.5	79 (.28)	70 (.32)	720	98 (.09)	96 (.16)	97 (.12)	95 (.18)	36	97 (.12)	95 (.18)
600	79 (.28)	69 (.32)	81 (.26)	73 (.30)	30	81 (.26)	73 (.30)	730	99 (.08)	97 (.14)	97 (.11)	95 (.18)	36.5	97 (.11)	95 (.18)
610	81 (.27)	72 (.31)	83 (.25)	76 (.29)	30.5	83 (.25)	76 (.29)	740	99 (.07)	98 (.13)	98 (.10)	96 (.16)	37	98 (.10)	96 (.16)
620	84 (.25)	75 (.30)	85 (.24)	79 (.28)	31	85 (.24)	79 (.28)	750	99 (.05)	99 (.11)	98 (.09)	97 (.15)	37.5	98 (.09)	97 (.15)
630	86 (.24)	78 (.28)	87 (.23)	81 (.27)	31.5	87 (.23)	81 (.27)	760	99+ (.04)	99 (.09)	99 (.08)	98 (.13)	38	99 (.08)	98 (.13)
640	88 (.22)	81 (.26)	89 (.22)	83 (.26)	32	89 (.22)	83 (.26)	770	99+ (.03)	99 (.07)	99 (.07)	98 (.13)	38.5	99 (.07)	98 (.13)
650	90 (.21)	84 (.26)	90 (.20)	86 (.24)	32.5	90 (.20)	86 (.24)	780	99+ (.02)	99+ (.05)	99 (.06)	98 (.11)	39	99 (.06)	98 (.11)
660	92 (.19)	86 (.24)	91 (.20)	87 (.25)	33	91 (.20)	87 (.25)	790	99+ (.01)	99+ (.02)	99+ (.04)	99 (.08)	39.5	99+ (.04)	99 (.08)
670	93 (.17)	89 (.22)	92 (.19)	88 (.23)	33.5	92 (.19)	88 (.23)	800	99+ (<.01)	99+ (<.01)	99+ (.02)	99+ (.04)	40	99+ (.02)	99+ (.04)
680	95 (.15)	91 (.21)	93 (.17)	89 (.22)	34	93 (.17)	89 (.22)								

Table A-6.4.3: SAT Reading (R), and Writing and Language (WL) Test, and Analysis of History and Social Science (HSS) and Analysis of Science (SCI) Cross-Test Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
10	1– (.01)	1– (.01)	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.02)
11	1– (.02)	1– (.02)	1– (.01)	1– (.03)	1– (.02)	1– (.02)	1– (.02)	1– (.04)
12	1– (.02)	1– (.04)	1– (.02)	1– (.03)	1– (.03)	1– (.03)	1– (.02)	1– (.04)
13	1– (.03)	1– (.04)	1– (.04)	1– (.05)	1– (.04)	1– (.05)	1– (.03)	1– (.05)
14	1 (.05)	1– (.06)	1 (.07)	1 (.08)	1 (.06)	1– (.06)	1– (.05)	1– (.07)
15	1 (.08)	1 (.08)	2 (.09)	1 (.09)	2 (.09)	1 (.09)	1 (.06)	1 (.09)
16	2 (.10)	1 (.10)	3 (.11)	2 (.12)	3 (.12)	1 (.11)	2 (.09)	2 (.12)
17	4 (.13)	2 (.14)	5 (.15)	3 (.16)	6 (.15)	2 (.14)	4 (.13)	3 (.15)
18	7 (.17)	4 (.17)	9 (.18)	5 (.18)	8 (.19)	4 (.17)	6 (.16)	4 (.18)
19	11 (.21)	6 (.21)	13 (.22)	7 (.22)	12 (.22)	6 (.20)	11 (.20)	7 (.21)
20	17 (.25)	10 (.25)	18 (.26)	10 (.25)	17 (.25)	9 (.23)	16 (.25)	10 (.26)
21	21 (.28)	14 (.29)	22 (.27)	13 (.26)	23 (.29)	13 (.28)	22 (.27)	13 (.28)
22	27 (.29)	18 (.30)	28 (.30)	18 (.29)	28 (.31)	17 (.29)	29 (.30)	18 (.29)
23	35 (.32)	23 (.32)	34 (.32)	22 (.32)	34 (.32)	21 (.31)	35 (.32)	24 (.33)
24	42 (.33)	30 (.34)	40 (.32)	27 (.32)	39 (.33)	26 (.33)	42 (.32)	31 (.33)
25	49 (.33)	37 (.35)	47 (.33)	34 (.33)	47 (.33)	35 (.33)	49 (.33)	37 (.36)
26	56 (.33)	44 (.36)	53 (.34)	40 (.35)	56 (.34)	43 (.37)	56 (.33)	44 (.35)
27	63 (.32)	51 (.36)	59 (.32)	46 (.34)	61 (.33)	50 (.37)	63 (.33)	52 (.36)
28	69 (.31)	58 (.35)	67 (.31)	55 (.34)	67 (.32)	56 (.37)	67 (.32)	57 (.36)
29	73 (.30)	64 (.35)	72 (.30)	62 (.34)	72 (.30)	62 (.36)	73 (.29)	64 (.32)
30	78 (.28)	69 (.32)	78 (.28)	69 (.31)	78 (.28)	68 (.34)	79 (.27)	71 (.32)
31	83 (.25)	75 (.30)	83 (.25)	75 (.31)	83 (.26)	73 (.32)	83 (.25)	76 (.30)
32	87 (.23)	80 (.29)	87 (.23)	79 (.29)	86 (.23)	79 (.30)	88 (.21)	82 (.26)

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	R		WL		HSS		SCI	
Score	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**
33	90 (.20)	85 (.25)	91 (.19)	85 (.24)	90 (.21)	84 (.28)	92 (.18)	88 (.24)
34	94 (.16)	90 (.22)	94 (.16)	90 (.22)	93 (.18)	88 (.25)	94 (.16)	91 (.21)
35	96 (.14)	93 (.20)	96 (.13)	93 (.19)	95 (.14)	92 (.21)	96 (.13)	94 (.19)
36	97 (.11)	95 (.18)	98 (.10)	96 (.16)	97 (.11)	95 (.18)	98 (.09)	96 (.15)
37	98 (.09)	96 (.16)	99 (.07)	98 (.12)	98 (.08)	97 (.15)	99 (.08)	97 (.15)
38	99 (.06)	98 (.11)	99 (.05)	98 (.12)	99 (.06)	98 (.12)	99 (.06)	98 (.12)
39	99+ (.03)	99 (.06)	99+ (.03)	99 (.08)	99+ (.04)	99 (.08)	99+ (.04)	99 (.08)
40	99+ (.01)	99+ (.02)	99+ (.01)	99+ (.03)	99+ (.01)	99+ (.03)	99+ (.02)	99+ (.03)

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Table A-6.4.4: SAT Subscore Nationally Representative and College Board Cohort Norms (with Conditional Standard Errors)

	COE		WIC		SEC		EOI		HOA		PSD		PAM	
Score	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group
1	1– (.01)	1– (.02)	1 (.05)	1– (.04)	1 (.04)	1– (.04)	1– (.02)	1– (.03)	1– (.03)	1– (.02)	1 (.04)	1– (.04)	1– (.02)	1– (.02)
2	1– (.03)	1– (.05)	3 (.11)	1 (.09)	2 (.09)	1 (.10)	1 (.05)	1 (.07)	1 (.07)	1– (.05)	3 (.10)	1 (.10)	1 (.05)	1 (.06)
3	1 (.06)	1 (.09)	5 (.15)	2 (.13)	5 (.14)	3 (.14)	2 (.09)	1 (.10)	3 (.12)	1 (.09)	5 (.14)	2 (.14)	3 (.10)	2 (.12)
4	4 (.12)	3 (.15)	10 (.19)	5 (.18)	11 (.19)	6 (.19)	5 (.13)	3 (.14)	6 (.16)	3 (.14)	9 (.19)	4 (.17)	7 (.16)	5 (.19)
5	10 (.19)	6 (.21)	16 (.24)	9 (.24)	19 (.26)	11 (.26)	12 (.21)	6 (.20)	13 (.21)	7 (.20)	16 (.23)	9 (.21)	14 (.22)	10 (.26)
6	20 (.25)	14 (.26)	23 (.28)	14 (.28)	28 (.29)	20 (.29)	22 (.26)	13 (.26)	22 (.28)	14 (.27)	25 (.28)	16 (.28)	25 (.28)	18 (.31)
7	34 (.31)	24 (.34)	32 (.30)	21 (.32)	40 (.32)	29 (.34)	33 (.30)	22 (.30)	34 (.30)	25 (.30)	34 (.31)	23 (.31)	38 (.31)	28 (.35)
8	48 (.32)	37 (.34)	43 (.32)	30 (.35)	50 (.33)	37 (.36)	45 (.32)	34 (.33)	48 (.32)	38 (.36)	45 (.32)	32 (.33)	50 (.32)	40 (.37)
9	61 (.32)	50 (.37)	53 (.33)	41 (.37)	62 (.30)	50 (.33)	59 (.31)	47 (.34)	59 (.32)	49 (.36)	57 (.32)	44 (.35)	62 (.31)	51 (.37)
10	73 (.28)	64 (.32)	65 (.31)	54 (.37)	74 (.29)	65 (.34)	70 (.31)	58 (.36)	72 (.28)	63 (.31)	68 (.30)	56 (.35)	74 (.27)	66 (.31)
11	83 (.25)	76 (.31)	77 (.27)	68 (.35)	82 (.25)	74 (.31)	79 (.26)	69 (.31)	84 (.23)	77 (.30)	78 (.27)	69 (.32)	84 (.24)	79 (.29)
12	91 (.18)	85 (.23)	88 (.21)	80 (.30)	89 (.21)	83 (.27)	89 (.19)	83 (.25)	90 (.19)	84 (.26)	87 (.22)	80 (.28)	90 (.19)	85 (.25)
13	96 (.13)	94 (.19)	94 (.14)	90 (.23)	94 (.16)	89 (.22)	96 (.13)	93 (.20)	94 (.15)	89 (.23)	93 (.17)	88 (.23)	94 (.15)	91 (.21)
14	98 (.07)	97 (.13)	98 (.08)	97 (.14)	97 (.11)	95 (.16)	98 (.07)	97 (.13)	97 (.11)	93 (.19)	97 (.11)	95 (.16)	97 (.11)	95 (.17)
15	99+ (.03)	99 (.06)	99+ (.03)	99 (.06)	99 (.05)	99 (.08)	99+ (.03)	99 (.06)	99 (.05)	99+ (.10)	99 (.05)	99 (.08)	99 (.05)	99+ (.08)

Table A-6.4.5: PSAT/NMSQT and PSAT 10 11th-Grade Total Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
320	1– (<.01)	1– (<.01)	560	1– (.04)	1– (<.01)	800	18 (.73)	15 (.03)	1040	68 (.90)	57 (.04)
330	1– (<.01)	1– (<.01)	570	1– (.04)	1– (.01)	810	20 (.77)	16 (.03)	1050	70 (.88)	59 (.04)
340	1– (<.01)	1– (<.01)	580	1– (.04)	1 (.01)	820	21 (.79)	18 (.03)	1060	73 (.86)	61 (.04)
350	1– (<.01)	1– (<.01)	590	1– (.04)	1 (.01)	830	24 (.80)	19 (.03)	1070	74 (.84)	63 (.04)
360	1– (<.01)	1– (<.01)	600	1– (.04)	1 (.01)	840	26 (.83)	21 (.03)	1080	76 (.83)	65 (.04)
370	1– (<.01)	1– (<.01)	610	1– (.04)	1 (.01)	850	28 (.85)	23 (.03)	1090	77 (.81)	67 (.03)
380	1– (<.01)	1– (<.01)	620	1– (.05)	1 (.01)	860	29 (.87)	24 (.03)	1100	79 (.79)	68 (.03)
390	1– (<.01)	1– (<.01)	630	1– (.07)	1 (.01)	870	31 (.87)	26 (.03)	1110	81 (.78)	70 (.03)
400	1– (<.01)	1– (<.01)	640	1– (.10)	1 (.01)	880	33 (.88)	28 (.03)	1120	82 (.76)	72 (.03)
410	1– (<.01)	1– (<.01)	650	1– (.12)	2 (.01)	890	35 (.90)	29 (.03)	1130	83 (.74)	73 (.03)
420	1– (<.01)	1– (<.01)	660	1– (.14)	2 (.01)	900	37 (.91)	31 (.03)	1140	84 (.73)	75 (.03)
430	1– (<.01)	1– (<.01)	670	1 (.17)	2 (.01)	910	39 (.92)	33 (.03)	1150	85 (.70)	76 (.03)
440	1– (<.01)	1– (<.01)	680	1 (.21)	3 (.01)	920	42 (.92)	35 (.04)	1160	86 (.69)	78 (.03)
450	1– (<.01)	1– (<.01)	690	2 (.24)	3 (.01)	930	44 (.93)	37 (.04)	1170	87 (.67)	79 (.03)
460	1– (<.01)	1– (<.01)	700	2 (.30)	4 (.01)	940	46 (.93)	38 (.04)	1180	88 (.65)	81 (.03)
470	1– (<.01)	1– (<.01)	710	3 (.35)	5 (.02)	950	48 (.94)	40 (.04)	1190	89 (.62)	82 (.03)
480	1– (<.01)	1– (<.01)	720	5 (.42)	5 (.02)	960	51 (.94)	42 (.04)	1200	90 (.59)	83 (.03)
490	1– (<.01)	1– (<.01)	730	7 (.50)	6 (.02)	970	53 (.95)	44 (.04)	1210	91 (.58)	84 (.03)
500	1– (<.01)	1– (<.01)	740	8 (.53)	7 (.02)	980	55 (.95)	46 (.04)	1220	92 (.55)	85 (.03)
510	1– (<.01)	1– (<.01)	750	8 (.55)	8 (.02)	990	57 (.95)	48 (.04)	1230	92 (.53)	86 (.03)
520	1– (.02)	1– (<.01)	760	10 (.58)	10 (.02)	1000	59 (.94)	50 (.04)	1240	93 (.51)	87 (.02)
530	1– (.04)	1– (<.01)	770	12 (.62)	11 (.02)	1010	61 (.94)	52 (.04)	1250	94 (.49)	88 (.02)
540	1– (.04)	1– (<.01)	780	14 (.66)	12 (.02)	1020	63 (.92)	54 (.04)	1260	94 (.47)	89 (.02)
550	1– (.04)	1– (<.01)	790	15 (.69)	13 (.03)	1030	65 (.92)	56 (.04)	1270	95 (.45)	90 (.02)

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Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
1280	95 (.44)	91 (.02)	1340	98 (.30)	94 (.02)	1400	99 (.19)	97 (.01)	1460	99+ (.08)	99 (.01)
1290	96 (.42)	91 (.02)	1350	98 (.27)	95 (.02)	1410	99 (.18)	97 (.01)	1470	99+ (.04)	99 (.01)
1300	96 (.39)	92 (.02)	1360	98 (.26)	95 (.02)	1420	99 (.15)	98 (.01)	1480	99+ (.03)	99+ (<.01)
1310	97 (.37)	93 (.02)	1370	99 (.23)	96 (.01)	1430	99+ (.12)	98 (.01)	1490	99+ (.01)	99+ (<.01)
1320	97 (.35)	93 (.02)	1380	99 (.22)	96 (.01)	1440	99+ (.11)	98 (.01)	1500	99+ (<.01)	99+ (<.01)
1330	97 (.33)	94 (.02)	1390	99 (.20)	97 (.01)	1450	99+ (.11)	99 (.01)	1510	99+ (<.01)	99+ (<.01)
									1520	99+ (<.01)	99+ (<.01)

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Table A-6.4.6: PSAT/NMSQT and PSAT 10 11th-Grade Evidence-Based Reading and Writing (ERW), Math Section (MSS), and Derived Math Test Score (MTS) Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	ERW		MSS		MTS				ERW		MSS		MTS		
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
160	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	8	1– (<.01)	1– (<.01)	350	7 (.49)	6 (.02)	3 (.33)	5 (.02)	17.5	3 (.33)	5 (.02)
170	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	8.5	1– (<.01)	1– (<.01)	360	10 (.55)	8 (.02)	6 (.46)	7 (.02)	18	6 (.46)	7 (.02)
180	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	9	1– (<.01)	1– (<.01)	370	12 (.62)	10 (.02)	9 (.55)	8 (.02)	18.5	9 (.55)	8 (.02)
190	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	9.5	1– (<.01)	1– (<.01)	380	16 (.68)	13 (.02)	11 (.61)	10 (.02)	19	11 (.61)	10 (.02)
200	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	10	1– (<.01)	1– (<.01)	390	20 (.73)	15 (.03)	14 (.68)	14 (.02)	19.5	14 (.68)	14 (.02)
210	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	10.5	1– (<.01)	1– (<.01)	400	23 (.78)	18 (.03)	18 (.74)	16 (.03)	20	18 (.74)	16 (.03)
220	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	11	1– (<.01)	1– (<.01)	410	26 (.82)	20 (.03)	20 (.79)	18 (.03)	20.5	20 (.79)	18 (.03)
230	1– (<.01)	1– (<.01)	1– (.02)	1– (<.01)	11.5	1– (.02)	1– (<.01)	420	28 (.85)	23 (.03)	23 (.81)	23 (.03)	21	23 (.81)	23 (.03)
240	1– (<.01)	1– (<.01)	1– (.04)	1– (<.01)	12	1– (.04)	1– (<.01)	430	31 (.87)	26 (.03)	26 (.86)	26 (.03)	21.5	26 (.86)	26 (.03)
250	1– (<.01)	1– (<.01)	1– (.05)	1– (<.01)	12.5	1– (.05)	1– (<.01)	440	35 (.89)	28 (.03)	31 (.86)	28 (.03)	22	31 (.86)	28 (.03)
260	1– (.01)	1– (<.01)	1– (.06)	1 (.01)	13	1– (.06)	1 (.01)	450	39 (.91)	31 (.03)	37 (.91)	33 (.03)	22.5	37 (.91)	33 (.03)
270	1– (.02)	1– (<.01)	1– (.06)	1 (.01)	13.5	1– (.06)	1 (.01)	460	42 (.93)	34 (.03)	40 (.96)	36 (.04)	23	40 (.96)	36 (.04)
280	1– (.04)	1 (.01)	1– (.08)	1 (.01)	14	1– (.08)	1 (.01)	470	46 (.95)	37 (.04)	43 (.94)	39 (.04)	23.5	43 (.94)	39 (.04)
290	1– (.08)	1 (.01)	1– (.09)	1 (.01)	14.5	1– (.09)	1 (.01)	480	50 (.94)	41 (.04)	49 (.94)	44 (.04)	24	49 (.94)	44 (.04)
300	1– (.11)	1 (.01)	1– (.11)	1 (.01)	15	1– (.11)	1 (.01)	490	55 (.94)	44 (.04)	54 (.93)	49 (.04)	24.5	54 (.93)	49 (.04)
310	1 (.16)	2 (.01)	1– (.13)	2 (.01)	15.5	1– (.13)	2 (.01)	500	60 (.95)	47 (.04)	58 (.93)	53 (.04)	25	58 (.93)	53 (.04)
320	2 (.28)	2 (.01)	1 (.17)	2 (.01)	16	1 (.17)	2 (.01)	510	63 (.93)	51 (.04)	62 (.93)	56 (.04)	25.5	62 (.93)	56 (.04)
330	4 (.38)	3 (.01)	1 (.22)	3 (.01)	16.5	1 (.22)	3 (.01)	520	67 (.91)	55 (.04)	65 (.91)	58 (.04)	26	65 (.91)	58 (.04)
340	6 (.44)	5 (.02)	2 (.25)	4 (.01)	17	2 (.25)	4 (.01)	530	71 (.87)	58 (.04)	69 (.88)	62 (.04)	26.5	69 (.88)	62 (.04)

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	ERW		MSS			MTS			ERW		MSS			MTS	
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
540	74 (.85)	62 (.04)	73 (.85)	65 (.03)	27	73 (.85)	65 (.03)	660	97 (.34)	92 (.02)	95 (.41)	93 (.02)	33	95 (.41)	93 (.02)
550	77 (.82)	65 (.03)	77 (.80)	69 (.03)	27.5	77 (.80)	69 (.03)	670	98 (.29)	93 (.02)	96 (.38)	93 (.02)	33.5	96 (.38)	93 (.02)
560	80 (.78)	69 (.03)	81 (.75)	72 (.03)	28	81 (.75)	72 (.03)	680	99 (.23)	95 (.02)	97 (.36)	94 (.02)	34	97 (.36)	94 (.02)
570	82 (.74)	72 (.03)	83 (.72)	75 (.03)	28.5	83 (.72)	75 (.03)	690	99 (.17)	96 (.01)	97 (.31)	94 (.02)	34.5	97 (.31)	94 (.02)
580	85 (.71)	75 (.03)	86 (.66)	79 (.03)	29	86 (.66)	79 (.03)	700	99+ (.14)	97 (.01)	98 (.29)	95 (.02)	35	98 (.29)	95 (.02)
590	86 (.68)	78 (.03)	88 (.63)	82 (.03)	29.5	88 (.63)	82 (.03)	710	99+ (.13)	98 (.01)	98 (.26)	96 (.01)	35.5	98 (.26)	96 (.01)
600	88 (.65)	80 (.03)	90 (.59)	84 (.03)	30	90 (.59)	84 (.03)	720	99+ (.12)	98 (.01)	99 (.25)	97 (.01)	36	99 (.25)	97 (.01)
610	90 (.60)	83 (.03)	91 (.56)	86 (.03)	30.5	91 (.56)	86 (.03)	730	99+ (.07)	99 (.01)	99 (.19)	97 (.01)	36.5	99 (.19)	97 (.01)
620	91 (.56)	85 (.03)	92 (.53)	87 (.02)	31	92 (.53)	87 (.02)	740	99+ (.02)	99+ (<.01)	99+ (.10)	98 (.01)	37	99+ (.10)	98 (.01)
630	93 (.48)	87 (.02)	93 (.49)	89 (.02)	31.5	93 (.49)	89 (.02)	750	99+ (<.01)	99+ (<.01)	99+ (.04)	99 (.01)	37.5	99+ (.04)	99 (.01)
640	95 (.43)	89 (.02)	94 (.47)	90 (.02)	32	94 (.47)	90 (.02)	760	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	38	99+ (<.01)	99+ (<.01)
650	96 (.39)	90 (.02)	95 (.45)	91 (.02)	32.5	95 (.45)	91 (.02)								

Table A-6.4.7: PSAT/NMSQT and PSAT 10 11th-Grade Reading (R), and Writing and Language (WL) Test, and Analysis of History and Social Science (HSS) and Analysis of Science (SCI) Cross-Test Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
8	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
9	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
10	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
11	1– (<.01)	1– (<.01)	1– (.03)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
12	1– (.02)	1– (<.01)	1– (.05)	1– (<.01)	1– (<.01)	1– (<.01)	1 (.10)	1– (<.01)
13	1– (.05)	1– (<.01)	1– (.07)	1 (.01)	1– (.02)	1 (.01)	1 (.20)	1 (.01)
14	1– (.08)	1 (.01)	1 (.13)	1 (.01)	1– (.08)	1 (.01)	1 (.20)	1 (.01)
15	1– (.09)	1 (.01)	4 (.31)	3 (.01)	1 (.16)	2 (.01)	1 (.22)	2 (.01)
16	2 (.21)	3 (.01)	8 (.51)	5 (.02)	3 (.27)	3 (.01)	2 (.27)	3 (.01)
17	6 (.41)	5 (.01)	10 (.59)	8 (.02)	5 (.43)	6 (.02)	4 (.36)	4 (.01)
18	10 (.56)	8 (.02)	14 (.64)	11 (.02)	8 (.52)	9 (.02)	7 (.48)	7 (.02)
19	15 (.66)	13 (.02)	19 (.73)	15 (.03)	13 (.62)	12 (.02)	12 (.60)	10 (.02)
20	21 (.75)	17 (.03)	24 (.78)	20 (.03)	21 (.74)	17 (.03)	20 (.73)	17 (.03)
21	28 (.82)	23 (.03)	31 (.85)	25 (.03)	29 (.83)	21 (.03)	29 (.85)	24 (.03)
22	36 (.88)	28 (.03)	36 (.91)	29 (.03)	35 (.86)	26 (.03)	38 (.91)	30 (.03)
23	44 (.92)	34 (.03)	42 (.91)	34 (.03)	44 (.89)	34 (.03)	47 (.91)	36 (.03)
24	51 (.94)	40 (.04)	49 (.93)	40 (.04)	52 (.95)	43 (.04)	57 (.92)	44 (.04)
25	59 (.92)	46 (.04)	57 (.92)	46 (.04)	58 (.95)	49 (.04)	64 (.91)	52 (.04)
26	67 (.88)	55 (.04)	65 (.91)	54 (.04)	65 (.90)	55 (.04)	69 (.89)	57 (.04)
27	74 (.84)	62 (.03)	71 (.87)	61 (.04)	72 (.86)	60 (.04)	73 (.85)	62 (.04)
28	79 (.77)	68 (.03)	76 (.82)	68 (.03)	79 (.76)	66 (.03)	79 (.77)	69 (.03)
29	84 (.72)	73 (.03)	82 (.72)	75 (.03)	85 (.68)	74 (.03)	84 (.72)	75 (.03)
30	87 (.65)	79 (.03)	88 (.62)	81 (.03)	89 (.61)	81 (.03)	87 (.66)	79 (.03)

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	R		WL		HSS		SCI	
Score	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**
31	90 (.58)	83 (.03)	92 (.52)	85 (.03)	92 (.54)	85 (.03)	90 (.59)	82 (.03)
32	93 (.48)	87 (.02)	95 (.38)	89 (.02)	94 (.46)	89 (.02)	92 (.52)	87 (.02)
33	95 (.43)	90 (.02)	98 (.29)	92 (.02)	96 (.39)	92 (.02)	95 (.39)	91 (.02)
34	96 (.36)	93 (.02)	99 (.24)	94 (.02)	97 (.35)	94 (.02)	98 (.30)	93 (.02)
35	98 (.27)	96 (.01)	99 (.18)	96 (.01)	98 (.31)	96 (.02)	99 (.22)	95 (.02)
36	99 (.16)	98 (.01)	99+ (.12)	98 (.01)	99 (.22)	97 (.01)	99 (.17)	97 (.01)
37	99+ (.06)	99 (.01)	99+ (.06)	99 (.01)	99 (.13)	99 (.01)	99+ (.12)	98 (.01)
38	99+ (<.01)	99+ (<.01)	99+ (.02)	99+ (<.01)	99+ (.05)	99+ (<.01)	99+ (.06)	99+ (<.01)

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Table A-6.4.8: PSAT/NMSQT and PSAT 10 11th-Grade Subscore Nationally Representative and College Board Cohort Norms (with Conditional Standard Errors)

	COE		WIC		SEC		EOI		HOA		PSD		PAM	
Score	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group
1	1– (.02)	1– (<.01)	1– (.04)	1– (<.01)	1– (.04)	1– (<.01)	1– (<.01)	1– (<.01)	1– (.06)	1– (<.01)	1– (.07)	1– (<.01)	1 (.11)	1 (<.01)
2	1– (.07)	1– (<.01)	1– (.11)	1 (.01)	1– (.10)	1 (<.01)	1– (<.01)	1– (<.01)	1– (.13)	1 (.01)	1– (.14)	1 (.01)	1 (.21)	1 (.01)
3	1 (.17)	1 (.01)	1 (.20)	2 (.01)	1 (.17)	1 (.01)	1 (.11)	1 (.01)	1 (.18)	2 (.01)	1 (.20)	2 (.01)	3 (.30)	4 (.01)
4	3 (.32)	3 (.01)	5 (.36)	4 (.01)	3 (.31)	4 (.01)	3 (.29)	2 (.01)	5 (.37)	6 (.02)	4 (.34)	4 (.01)	5 (.47)	6 (.02)
5	9 (.50)	6 (.02)	12 (.57)	10 (.02)	10 (.52)	8 (.02)	8 (.48)	6 (.02)	13 (.60)	13 (.02)	9 (.52)	8 (.02)	11 (.54)	11 (.02)
6	16 (.67)	14 (.02)	22 (.73)	18 (.03)	22 (.71)	16 (.02)	16 (.64)	13 (.02)	22 (.77)	24 (.03)	19 (.71)	16 (.02)	17 (.77)	16 (.03)
7	28 (.80)	25 (.03)	35 (.84)	28 (.03)	33 (.87)	26 (.03)	28 (.78)	24 (.03)	32 (.85)	36 (.03)	33 (.86)	26 (.03)	25 (.78)	24 (.03)
8	47 (.86)	39 (.03)	47 (.91)	39 (.03)	47 (.86)	38 (.03)	46 (.86)	39 (.03)	47 (.88)	48 (.03)	47 (.91)	38 (.03)	42 (.89)	38 (.03)
9	63 (.91)	52 (.04)	61 (.84)	52 (.03)	64 (.84)	55 (.03)	64 (.86)	55 (.03)	62 (.89)	60 (.03)	63 (.84)	56 (.03)	59 (.89)	53 (.03)
10	76 (.74)	66 (.03)	75 (.81)	65 (.03)	76 (.82)	67 (.03)	77 (.80)	67 (.03)	73 (.81)	69 (.03)	79 (.71)	73 (.03)	77 (.72)	70 (.03)
11	88 (.63)	78 (.03)	84 (.68)	74 (.03)	85 (.62)	78 (.03)	86 (.63)	78 (.03)	82 (.71)	77 (.03)	88 (.60)	82 (.03)	88 (.60)	82 (.03)
12	93 (.45)	86 (.02)	91 (.54)	82 (.03)	93 (.47)	88 (.02)	93 (.51)	85 (.03)	87 (.63)	83 (.03)	93 (.46)	88 (.02)	92 (.52)	87 (.02)
13	97 (.30)	94 (.02)	95 (.40)	90 (.02)	97 (.32)	93 (.02)	96 (.32)	91 (.02)	91 (.53)	88 (.02)	97 (.33)	93 (.02)	95 (.41)	91 (.02)
14	99 (.18)	97 (.01)	98 (.24)	96 (.01)	99 (.21)	97 (.01)	99 (.15)	97 (.01)	95 (.42)	91 (.02)	98 (.23)	96 (.01)	97 (.32)	94 (.02)
15	99+ (.08)	99 (<.01)	99+ (.09)	99 (.01)	99+ (.09)	99 (.01)	99+ (.05)	99 (.01)	99+ (.20)	99+ (.01)	99+ (.10)	99 (.01)	99 (.15)	99+ (.01)

Table A-6.4.9: PSAT/NMSQT and PSAT 10 10th-Grade Total Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
320	1– (<.01)	1– (<.01)	560	1– (.02)	1 (.01)	800	24 (.42)	25 (.03)	1040	73 (.43)	73 (.03)
330	1– (<.01)	1– (<.01)	570	1– (.02)	1 (.01)	810	26 (.43)	27 (.03)	1050	75 (.42)	75 (.03)
340	1– (<.01)	1– (<.01)	580	1– (.03)	1 (.01)	820	28 (.44)	30 (.03)	1060	76 (.42)	76 (.03)
350	1– (<.01)	1– (<.01)	590	1– (.04)	1 (.01)	830	31 (.45)	32 (.03)	1070	78 (.41)	78 (.03)
360	1– (<.01)	1– (<.01)	600	1– (.05)	1 (.01)	840	33 (.46)	34 (.03)	1080	79 (.40)	79 (.03)
370	1– (<.01)	1– (<.01)	610	1– (.06)	1 (.01)	850	36 (.46)	36 (.03)	1090	81 (.39)	81 (.03)
380	1– (<.01)	1– (<.01)	620	1 (.07)	2 (.01)	860	38 (.47)	38 (.03)	1100	82 (.38)	82 (.03)
390	1– (<.01)	1– (<.01)	630	1 (.09)	2 (.01)	870	40 (.47)	40 (.03)	1110	83 (.37)	83 (.03)
400	1– (<.01)	1– (<.01)	640	1 (.10)	2 (.01)	880	42 (.48)	43 (.03)	1120	84 (.36)	85 (.02)
410	1– (<.01)	1– (<.01)	650	1 (.12)	3 (.01)	890	44 (.48)	45 (.03)	1130	86 (.34)	86 (.02)
420	1– (<.01)	1– (<.01)	660	2 (.13)	3 (.01)	900	46 (.48)	47 (.03)	1140	87 (.33)	87 (.02)
430	1– (<.01)	1– (<.01)	670	2 (.15)	4 (.01)	910	48 (.48)	49 (.03)	1150	88 (.32)	88 (.02)
440	1– (<.01)	1– (<.01)	680	3 (.18)	5 (.01)	920	50 (.48)	51 (.03)	1160	89 (.31)	89 (.02)
450	1– (<.01)	1– (<.01)	690	4 (.20)	6 (.02)	930	52 (.48)	53 (.03)	1170	90 (.30)	90 (.02)
460	1– (<.01)	1– (<.01)	700	5 (.22)	7 (.02)	940	54 (.48)	55 (.03)	1180	91 (.29)	91 (.02)
470	1– (<.01)	1– (<.01)	710	6 (.25)	8 (.02)	950	56 (.48)	57 (.03)	1190	91 (.28)	92 (.02)
480	1– (<.01)	1– (<.01)	720	8 (.27)	10 (.02)	960	58 (.48)	59 (.03)	1200	92 (.26)	92 (.02)
490	1– (<.01)	1– (<.01)	730	9 (.29)	11 (.02)	970	60 (.48)	61 (.03)	1210	93 (.25)	93 (.02)
500	1– (<.01)	1– (<.01)	740	11 (.31)	13 (.02)	980	62 (.47)	63 (.03)	1220	94 (.25)	94 (.02)
510	1– (<.01)	1– (<.01)	750	13 (.33)	15 (.02)	990	63 (.47)	65 (.03)	1230	94 (.23)	94 (.02)
520	1– (<.01)	1– (<.01)	760	15 (.35)	17 (.03)	1000	65 (.46)	66 (.03)	1240	95 (.22)	95 (.02)
530	1– (.01)	1– (<.01)	770	17 (.37)	19 (.03)	1010	67 (.46)	68 (.03)	1250	95 (.21)	95 (.01)
540	1– (.01)	1– (<.01)	780	19 (.39)	21 (.03)	1020	69 (.45)	70 (.03)	1260	96 (.20)	96 (.01)
550	1– (.02)	1 (<.01)	790	22 (.40)	23 (.03)	1030	71 (.44)	72 (.03)	1270	96 (.19)	96 (.01)

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Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
1280	97 (.19)	97 (.01)	1340	98 (.13)	98 (.01)	1400	99 (.09)	99 (.01)	1460	99+ (.04)	99+ (<.01)
1290	97 (.17)	97 (.01)	1350	98 (.13)	98 (.01)	1410	99 (.08)	99 (.01)	1470	99+ (.04)	99+ (<.01)
1300	97 (.17)	97 (.01)	1360	99 (.12)	99 (.01)	1420	99 (.07)	99 (<.01)	1480	99+ (.03)	99+ (<.01)
1310	97 (.16)	97 (.01)	1370	99 (.11)	99 (.01)	1430	99+ (.06)	99+ (<.01)	1490	99+ (.02)	99+ (<.01)
1320	98 (.15)	98 (.01)	1380	99 (.10)	99 (.01)	1440	99+ (.05)	99+ (<.01)	1500	99+ (.01)	99+ (<.01)
1330	98 (.14)	98 (.01)	1390	99 (.10)	99 (.01)	1450	99+ (.04)	99+ (<.01)	1510	99+ (.01)	99+ (<.01)
									1520	99+ (<.01)	99+ (<.01)

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Table A-6.4.10: PSAT/NMSQT and PSAT 10 10th-Grade Evidence-Based Reading and Writing (ERW), Math Section (MSS), and Derived Math Test Score (MTS) Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	ERW		MSS			MTS			ERW		MSS			MTS	
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
160	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	8	1– (<.01)	1– (<.01)	350	10 (.29)	11 (.02)	7 (.24)	8 (.02)	17.5	7 (.24)	8 (.02)
170	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	8.5	1– (<.01)	1– (<.01)	360	13 (.33)	14 (.02)	10 (.30)	11 (.02)	18	10 (.30)	11 (.02)
180	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	9	1– (<.01)	1– (<.01)	370	17 (.37)	18 (.03)	12 (.32)	14 (.02)	18.5	12 (.32)	14 (.02)
190	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	9.5	1– (<.01)	1– (<.01)	380	21 (.39)	21 (.03)	15 (.35)	17 (.02)	19	15 (.35)	17 (.02)
200	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	10	1– (<.01)	1– (<.01)	390	24 (.42)	25 (.03)	19 (.38)	22 (.03)	19.5	19 (.38)	22 (.03)
210	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	10.5	1– (<.01)	1– (<.01)	400	28 (.43)	28 (.03)	23 (.42)	25 (.03)	20	23 (.42)	25 (.03)
220	1– (<.01)	1– (<.01)	1– (.01)	1– (<.01)	11	1– (.01)	1– (<.01)	410	32 (.45)	32 (.03)	26 (.43)	29 (.03)	20.5	26 (.43)	29 (.03)
230	1– (<.01)	1– (<.01)	1– (.01)	1– (<.01)	11.5	1– (.01)	1– (<.01)	420	36 (.46)	36 (.03)	31 (.44)	35 (.03)	21	31 (.44)	35 (.03)
240	1– (<.01)	1– (<.01)	1– (.02)	1 (.01)	12	1– (.02)	1 (.01)	430	39 (.47)	39 (.03)	36 (.47)	39 (.03)	21.5	36 (.47)	39 (.03)
250	1– (.01)	1– (<.01)	1– (.03)	1 (.01)	12.5	1– (.03)	1 (.01)	440	43 (.47)	42 (.03)	40 (.47)	42 (.03)	22	40 (.47)	42 (.03)
260	1– (.01)	1– (<.01)	1– (.05)	1 (.01)	13	1– (.05)	1 (.01)	450	46 (.48)	46 (.03)	46 (.48)	48 (.03)	22.5	46 (.48)	48 (.03)
270	1– (.02)	1 (.01)	1– (.06)	1 (.01)	13.5	1– (.06)	1 (.01)	460	49 (.48)	49 (.03)	49 (.50)	52 (.03)	23	49 (.50)	52 (.03)
280	1– (.04)	1 (.01)	1– (.07)	1 (.01)	14	1– (.07)	1 (.01)	470	53 (.48)	53 (.03)	52 (.48)	55 (.03)	23.5	52 (.48)	55 (.03)
290	1– (.06)	1 (.01)	1 (.08)	2 (.01)	14.5	1 (.08)	2 (.01)	480	56 (.48)	56 (.03)	57 (.48)	60 (.03)	24	57 (.48)	60 (.03)
300	1 (.09)	2 (.01)	1 (.11)	2 (.01)	15	1 (.11)	2 (.01)	490	59 (.47)	59 (.03)	62 (.47)	65 (.03)	24.5	62 (.47)	65 (.03)
310	2 (.12)	3 (.01)	2 (.13)	3 (.01)	15.5	2 (.13)	3 (.01)	500	63 (.47)	63 (.03)	66 (.45)	69 (.03)	25	66 (.45)	69 (.03)
320	3 (.16)	4 (.01)	2 (.15)	4 (.01)	16	2 (.15)	4 (.01)	510	66 (.45)	66 (.03)	69 (.45)	71 (.03)	25.5	69 (.45)	71 (.03)
330	5 (.20)	6 (.02)	3 (.17)	5 (.01)	16.5	3 (.17)	5 (.01)	520	70 (.44)	70 (.03)	72 (.43)	73 (.03)	26	72 (.43)	73 (.03)
340	7 (.25)	8 (.02)	5 (.21)	6 (.02)	17	5 (.21)	6 (.02)	530	73 (.43)	73 (.03)	76 (.41)	77 (.03)	26.5	76 (.41)	77 (.03)

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	ERW		MSS			MTS			ERW		MSS			MTS	
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
540	76 (.41)	76 (.03)	79 (.39)	80 (.03)	27	79 (.39)	80 (.03)	660	97 (.17)	97 (.01)	97 (.17)	97 (.01)	33	97 (.17)	97 (.01)
550	79 (.39)	79 (.03)	82 (.38)	82 (.03)	27.5	82 (.38)	82 (.03)	670	98 (.15)	97 (.01)	97 (.16)	97 (.01)	33.5	97 (.16)	97 (.01)
560	82 (.37)	81 (.03)	84 (.36)	85 (.02)	28	84 (.36)	85 (.02)	680	98 (.14)	98 (.01)	98 (.15)	98 (.01)	34	98 (.15)	98 (.01)
570	85 (.35)	84 (.02)	86 (.34)	87 (.02)	28.5	86 (.34)	87 (.02)	690	99 (.11)	99 (.01)	98 (.13)	98 (.01)	34.5	98 (.13)	98 (.01)
580	87 (.33)	86 (.02)	89 (.30)	89 (.02)	29	89 (.30)	89 (.02)	700	99 (.09)	99 (.01)	99 (.12)	98 (.01)	35	99 (.12)	98 (.01)
590	89 (.31)	88 (.02)	91 (.28)	91 (.02)	29.5	91 (.28)	91 (.02)	710	99 (.08)	99 (.01)	99 (.11)	99 (.01)	35.5	99 (.11)	99 (.01)
600	90 (.29)	90 (.02)	92 (.26)	93 (.02)	30	92 (.26)	93 (.02)	720	99+ (.07)	99+ (<.01)	99 (.10)	99 (.01)	36	99 (.10)	99 (.01)
610	92 (.27)	91 (.02)	94 (.24)	94 (.02)	30.5	94 (.24)	94 (.02)	730	99+ (.05)	99+ (<.01)	99 (.08)	99 (.01)	36.5	99 (.08)	99 (.01)
620	93 (.25)	93 (.02)	95 (.22)	95 (.02)	31	95 (.22)	95 (.02)	740	99+ (.04)	99+ (<.01)	99+ (.05)	99 (<.01)	37	99+ (.05)	99 (<.01)
630	95 (.22)	94 (.02)	95 (.21)	95 (.01)	31.5	95 (.21)	95 (.01)	750	99+ (.02)	99+ (<.01)	99+ (.04)	99+ (<.01)	37.5	99+ (.04)	99+ (<.01)
640	96 (.20)	95 (.01)	96 (.20)	96 (.01)	32	96 (.20)	96 (.01)	760	99+ (<.01)	99+ (<.01)	99+ (.02)	99+ (<.01)	38	99+ (.02)	99+ (<.01)
650	97 (.18)	96 (.01)	96 (.18)	97 (.01)	32.5	96 (.18)	97 (.01)								

Table A-6.4.11: PSAT/NMSQT and PSAT 10 10th-Grade Reading (R), and Writing and Language (WL) Test, and Analysis of History and Social Science (HSS) and Analysis of Science (SCI) Cross-Test Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
8	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
9	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
10	1– (.01)	1– (<.01)	1– (.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
11	1– (.01)	1– (<.01)	1– (.03)	1– (<.01)	1– (.01)	1– (<.01)	1– (.01)	1– (<.01)
12	1– (.02)	1– (<.01)	1– (.06)	1 (.01)	1– (.04)	1– (<.01)	1– (.03)	1 (.01)
13	1– (.03)	1 (<.01)	1 (.08)	1 (.01)	1– (.06)	1 (.01)	1– (.05)	1 (.01)
14	1– (.05)	1 (.01)	2 (.11)	2 (.01)	1 (.09)	2 (.01)	1– (.06)	1 (.01)
15	1 (.09)	2 (.01)	4 (.18)	5 (.01)	2 (.14)	3 (.01)	1 (.10)	3 (.01)
16	3 (.15)	4 (.01)	8 (.26)	9 (.02)	4 (.18)	5 (.01)	2 (.15)	4 (.01)
17	6 (.23)	7 (.02)	12 (.32)	13 (.02)	8 (.27)	10 (.02)	5 (.20)	7 (.02)
18	12 (.30)	12 (.02)	18 (.36)	19 (.02)	13 (.32)	14 (.02)	9 (.27)	11 (.02)
19	20 (.38)	20 (.03)	24 (.41)	25 (.03)	20 (.37)	20 (.03)	15 (.35)	16 (.02)
20	27 (.43)	27 (.03)	30 (.43)	31 (.03)	28 (.43)	26 (.03)	25 (.39)	26 (.03)
21	35 (.45)	34 (.03)	37 (.46)	38 (.03)	35 (.45)	33 (.03)	37 (.45)	35 (.03)
22	43 (.47)	42 (.03)	43 (.48)	42 (.03)	42 (.47)	40 (.03)	44 (.47)	43 (.03)
23	49 (.48)	48 (.03)	48 (.47)	49 (.03)	51 (.46)	49 (.03)	52 (.47)	50 (.03)
24	55 (.47)	55 (.03)	55 (.47)	55 (.03)	60 (.47)	58 (.03)	60 (.46)	58 (.03)
25	62 (.46)	61 (.03)	62 (.45)	61 (.03)	65 (.46)	64 (.03)	67 (.45)	66 (.03)
26	69 (.44)	69 (.03)	69 (.43)	68 (.03)	70 (.44)	69 (.03)	72 (.43)	71 (.03)
27	76 (.42)	75 (.03)	76 (.40)	75 (.03)	75 (.42)	74 (.03)	77 (.41)	76 (.03)
28	81 (.38)	80 (.03)	81 (.37)	81 (.03)	81 (.38)	79 (.03)	82 (.37)	81 (.03)
29	85 (.35)	84 (.02)	86 (.33)	86 (.02)	86 (.33)	85 (.02)	86 (.34)	86 (.02)
30	89 (.31)	88 (.02)	90 (.28)	90 (.02)	90 (.29)	90 (.02)	89 (.31)	88 (.02)

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	R		WL		HSS		SCI	
Score	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**
31	92 (.28)	91 (.02)	93 (.25)	93 (.02)	93 (.25)	93 (.02)	91 (.28)	91 (.02)
32	94 (.23)	94 (.02)	95 (.20)	95 (.01)	95 (.21)	95 (.01)	94 (.23)	94 (.02)
33	96 (.20)	96 (.01)	97 (.16)	97 (.01)	97 (.17)	97 (.01)	96 (.19)	96 (.01)
34	97 (.16)	97 (.01)	98 (.13)	98 (.01)	98 (.14)	98 (.01)	97 (.16)	97 (.01)
35	98 (.13)	98 (.01)	99 (.11)	99 (.01)	99 (.12)	98 (.01)	98 (.13)	98 (.01)
36	99 (.09)	99 (.01)	99 (.08)	99 (.01)	99 (.09)	99 (.01)	99 (.10)	99 (.01)
37	99+ (.04)	99+ (<.01)	99+ (.05)	99+ (<.01)	99+ (.05)	99+ (<.01)	99 (.07)	99 (<.01)
38	99+ (.01)	99+ (<.01)	99+ (.02)	99+ (<.01)	99+ (.02)	99+ (<.01)	99+ (.03)	99+ (<.01)

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Table A-6.4.12: PSAT/NMSQT and PSAT 10 10th-Grade Subscore Nationally Representative and College Board Cohort Norms (with Conditional Standard Errors)

	COE		WIC		SEC		EOI		HOA		PSD		PAM	
Score	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group
1	1– (.02)	1– (<.01)	1– (.02)	1– (<.01)	1– (.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (.04)	1 (<.01)	1– (.03)	1– (<.01)	1 (.08)	1 (<.01)
2	1– (.05)	1 (<.01)	1 (.07)	1 (.01)	1– (.04)	1 (.01)	1– (.03)	1– (<.01)	1 (.08)	1 (.01)	1– (.06)	1 (.01)	2 (.15)	2 (.01)
3	1 (.10)	2 (.01)	2 (.13)	3 (.01)	1 (.11)	2 (.01)	1 (.09)	2 (.01)	2 (.12)	3 (.01)	2 (.11)	3 (.01)	5 (.19)	6 (.01)
4	4 (.19)	5 (.01)	7 (.22)	7 (.02)	5 (.19)	6 (.01)	4 (.16)	4 (.01)	7 (.22)	8 (.02)	5 (.20)	6 (.01)	9 (.29)	9 (.02)
5	10 (.28)	10 (.02)	15 (.33)	17 (.02)	12 (.29)	13 (.02)	9 (.26)	10 (.02)	15 (.33)	18 (.02)	12 (.30)	13 (.02)	16 (.32)	17 (.02)
6	20 (.36)	22 (.02)	27 (.40)	28 (.03)	25 (.38)	24 (.03)	20 (.35)	21 (.02)	27 (.41)	32 (.03)	23 (.39)	23 (.03)	24 (.44)	25 (.03)
7	35 (.43)	36 (.03)	41 (.45)	41 (.03)	38 (.46)	37 (.03)	35 (.42)	35 (.03)	40 (.46)	47 (.03)	38 (.45)	36 (.03)	33 (.43)	35 (.03)
8	53 (.44)	52 (.03)	52 (.47)	53 (.03)	52 (.44)	51 (.03)	52 (.44)	53 (.03)	55 (.45)	61 (.03)	53 (.46)	50 (.03)	50 (.46)	54 (.03)
9	68 (.44)	66 (.03)	65 (.42)	66 (.03)	68 (.42)	68 (.03)	69 (.41)	69 (.03)	69 (.44)	72 (.03)	69 (.41)	68 (.03)	68 (.41)	69 (.03)
10	80 (.36)	77 (.03)	79 (.39)	77 (.03)	79 (.39)	79 (.03)	81 (.37)	80 (.03)	77 (.39)	80 (.03)	83 (.34)	83 (.02)	82 (.34)	83 (.02)
11	89 (.30)	87 (.02)	86 (.33)	85 (.02)	87 (.30)	87 (.02)	88 (.30)	88 (.02)	85 (.34)	86 (.02)	91 (.28)	90 (.02)	90 (.28)	92 (.02)
12	94 (.21)	93 (.02)	91 (.26)	91 (.02)	94 (.23)	94 (.02)	93 (.25)	93 (.02)	90 (.28)	91 (.02)	95 (.20)	94 (.01)	94 (.23)	95 (.01)
13	97 (.15)	97 (.01)	95 (.19)	95 (.01)	97 (.16)	97 (.01)	96 (.16)	96 (.01)	94 (.23)	94 (.02)	98 (.15)	97 (.01)	96 (.18)	97 (.01)
14	99 (.10)	99 (.01)	98 (.12)	98 (.01)	99 (.10)	99 (.01)	99 (.10)	99 (.01)	96 (.18)	96 (.01)	99 (.10)	99 (.01)	98 (.14)	98 (.01)
15	99+ (.04)	99+ (<.01)	99+ (.05)	99+ (<.01)	99+ (.04)	99+ (<.01)	99+ (.04)	99+ (<.01)	99 (.08)	99+ (.01)	99+ (.05)	99+ (<.01)	99 (.07)	99 (<.01)

Table A-6.4.13: PSAT 8/9 9th-Grade Total Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
240	1– (<.01)	1– (<.01)	460	1– (.01)	1– (.01)	680	8 (.20)	12 (.04)	900	55 (.35)	60 (.07)
250	1– (<.01)	1– (<.01)	470	1– (.01)	1– (.01)	690	9 (.21)	14 (.05)	910	57 (.35)	62 (.07)
260	1– (<.01)	1– (<.01)	480	1– (.01)	1– (.01)	700	11 (.22)	16 (.05)	920	60 (.35)	64 (.07)
270	1– (<.01)	1– (<.01)	490	1– (.01)	1 (.01)	710	12 (.24)	17 (.05)	930	62 (.34)	66 (.07)
280	1– (<.01)	1– (<.01)	500	1– (.01)	1 (.01)	720	14 (.25)	20 (.05)	940	64 (.34)	68 (.06)
290	1– (<.01)	1– (<.01)	510	1– (.02)	1 (.01)	730	16 (.26)	22 (.06)	950	66 (.34)	70 (.06)
300	1– (<.01)	1– (<.01)	520	1– (.02)	1 (.01)	740	18 (.27)	24 (.06)	960	68 (.33)	71 (.06)
310	1– (<.01)	1– (<.01)	530	1– (.03)	1 (.01)	750	20 (.29)	26 (.06)	970	70 (.32)	73 (.06)
320	1– (<.01)	1– (<.01)	540	1– (.03)	1 (.01)	760	22 (.30)	28 (.06)	980	72 (.32)	75 (.06)
330	1– (<.01)	1– (<.01)	550	1– (.04)	1 (.02)	770	24 (.31)	30 (.06)	990	74 (.31)	77 (.06)
340	1– (<.01)	1– (<.01)	560	1– (.05)	2 (.02)	780	26 (.31)	33 (.06)	1000	76 (.30)	78 (.06)
350	1– (<.01)	1– (<.01)	570	1 (.06)	2 (.02)	790	29 (.32)	35 (.07)	1010	78 (.30)	80 (.06)
360	1– (<.01)	1– (<.01)	580	1 (.07)	2 (.02)	800	31 (.33)	37 (.07)	1020	80 (.29)	81 (.05)
370	1– (<.01)	1– (.01)	590	1 (.08)	3 (.02)	810	33 (.33)	40 (.07)	1030	81 (.28)	83 (.05)
380	1– (<.01)	1– (.01)	600	1 (.09)	3 (.02)	820	36 (.34)	42 (.07)	1040	83 (.27)	84 (.05)
390	1– (<.01)	1– (.01)	610	2 (.10)	4 (.03)	830	38 (.34)	44 (.07)	1050	84 (.26)	86 (.05)
400	1– (<.01)	1– (.01)	620	2 (.11)	5 (.03)	840	41 (.35)	46 (.07)	1060	86 (.25)	87 (.05)
410	1– (<.01)	1– (.01)	630	3 (.12)	6 (.03)	850	43 (.35)	49 (.07)	1070	87 (.24)	88 (.05)
420	1– (<.01)	1– (.01)	640	4 (.14)	7 (.03)	860	46 (.35)	51 (.07)	1080	88 (.23)	89 (.04)
430	1– (<.01)	1– (.01)	650	4 (.15)	8 (.04)	870	48 (.35)	53 (.07)	1090	89 (.22)	90 (.04)
440	1– (.01)	1– (.01)	660	5 (.16)	9 (.04)	880	50 (.35)	55 (.07)	1100	90 (.21)	91 (.04)
450	1– (.01)	1– (.01)	670	7 (.18)	10 (.04)	890	53 (.35)	57 (.07)	1110	91 (.20)	92 (.04)

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Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
1120	92 (.19)	93 (.04)	1200	97 (.12)	97 (.02)	1280	99 (.07)	99 (.01)	1360	99+ (.03)	99+ (.01)
1130	93 (.19)	93 (.03)	1210	98 (.11)	97 (.02)	1290	99 (.07)	99 (.01)	1370	99+ (.02)	99+ (<.01)
1140	94 (.18)	94 (.03)	1220	98 (.11)	98 (.02)	1300	99 (.06)	99 (.01)	1380	99+ (.02)	99+ (<.01)
1150	94 (.17)	95 (.03)	1230	98 (.10)	98 (.02)	1310	99+ (.05)	99 (.01)	1390	99+ (.01)	99+ (<.01)
1160	95 (.16)	95 (.03)	1240	98 (.09)	98 (.02)	1320	99+ (.04)	99+ (.01)	1400	99+ (.01)	99+ (<.01)
1170	96 (.15)	96 (.03)	1250	99 (.09)	99 (.02)	1330	99+ (.04)	99+ (.01)	1410	99+ (<.01)	99+ (<.01)
1180	96 (.14)	96 (.03)	1260	99 (.08)	99 (.02)	1340	99+ (.03)	99+ (.01)	1420	99+ (<.01)	99+ (<.01)
1190	97 (.13)	97 (.02)	1270	99 (.08)	99 (.01)	1350	99+ (.03)	99+ (.01)	1430	99+ (<.01)	99+ (<.01)
									1440	99+ (<.01)	99+ (<.01)

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Table A-6.4.14: PSAT 8/9 9th-Grade Evidence-Based Reading and Writing (ERW), Math Section (MSS), and Derived Math Test Score (MTS) Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	ERW		MSS		MTS				ERW		MSS		MTS		
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
120	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	6	1– (<.01)	1– (<.01)	310	3 (.11)	5 (.03)	4 (.15)	7 (.04)	15.5	4 (.15)	7 (.04)
130	1– (<.01)	1– (<.01)	1– (<.01)	1– (.01)	6.5	1– (<.01)	1– (.01)	320	4 (.15)	8 (.04)	6 (.17)	9 (.04)	16	6 (.17)	9 (.04)
140	1– (<.01)	1– (<.01)	1– (<.01)	1– (.01)	7	1– (<.01)	1– (.01)	330	7 (.18)	11 (.04)	8 (.20)	11 (.04)	16.5	8 (.20)	11 (.04)
150	1– (<.01)	1– (<.01)	1– (.01)	1– (.01)	7.5	1– (.01)	1– (.01)	340	10 (.21)	14 (.05)	10 (.21)	14 (.05)	17	10 (.21)	14 (.05)
160	1– (<.01)	1– (<.01)	1– (.01)	1– (.01)	8	1– (.01)	1– (.01)	350	13 (.24)	18 (.05)	12 (.25)	17 (.05)	17.5	12 (.25)	17 (.05)
170	1– (<.01)	1– (<.01)	1– (.01)	1– (.01)	8.5	1– (.01)	1– (.01)	360	17 (.27)	22 (.06)	15 (.25)	20 (.05)	18	15 (.25)	20 (.05)
180	1– (<.01)	1– (.01)	1– (.02)	1– (.01)	9	1– (.02)	1– (.01)	370	21 (.29)	26 (.06)	18 (.28)	24 (.06)	18.5	18 (.28)	24 (.06)
190	1– (<.01)	1– (.01)	1– (.02)	1– (.01)	9.5	1– (.02)	1– (.01)	380	25 (.30)	30 (.06)	21 (.29)	28 (.06)	19	21 (.29)	28 (.06)
200	1– (<.01)	1– (.01)	1– (.03)	1 (.01)	10	1– (.03)	1 (.01)	390	29 (.32)	34 (.06)	27 (.31)	33 (.06)	19.5	27 (.31)	33 (.06)
210	1– (<.01)	1– (.01)	1– (.03)	1 (.01)	10.5	1– (.03)	1 (.01)	400	33 (.33)	38 (.07)	32 (.33)	39 (.07)	20	32 (.33)	39 (.07)
220	1– (<.01)	1– (.01)	1– (.04)	1 (.01)	11	1– (.04)	1 (.01)	410	38 (.34)	42 (.07)	35 (.35)	43 (.07)	20.5	35 (.35)	43 (.07)
230	1– (<.01)	1– (.01)	1– (.04)	1 (.01)	11.5	1– (.04)	1 (.01)	420	42 (.34)	46 (.07)	39 (.34)	47 (.07)	21	39 (.34)	47 (.07)
240	1– (.01)	1 (.01)	1– (.05)	1 (.02)	12	1– (.05)	1 (.02)	430	47 (.35)	50 (.07)	44 (.35)	51 (.07)	21.5	44 (.35)	51 (.07)
250	1– (.02)	1 (.01)	1 (.06)	2 (.02)	12.5	1 (.06)	2 (.02)	440	51 (.35)	54 (.07)	49 (.35)	56 (.07)	22	49 (.35)	56 (.07)
260	1– (.03)	1 (.01)	1 (.08)	2 (.02)	13	1 (.08)	2 (.02)	450	55 (.35)	57 (.07)	55 (.35)	61 (.07)	22.5	55 (.35)	61 (.07)
270	1– (.04)	1 (.02)	1 (.08)	2 (.02)	13.5	1 (.08)	2 (.02)	460	59 (.35)	61 (.07)	60 (.34)	66 (.06)	23	60 (.34)	66 (.06)
280	1– (.05)	2 (.02)	2 (.09)	3 (.02)	14	2 (.09)	3 (.02)	470	62 (.34)	64 (.07)	65 (.33)	70 (.06)	23.5	65 (.33)	70 (.06)
290	1 (.07)	3 (.02)	2 (.11)	4 (.03)	14.5	2 (.11)	4 (.03)	480	66 (.33)	68 (.06)	69 (.32)	74 (.06)	24	69 (.32)	74 (.06)
300	2 (.09)	4 (.03)	3 (.13)	6 (.03)	15	3 (.13)	6 (.03)	490	69 (.32)	71 (.06)	74 (.31)	77 (.06)	24.5	74 (.31)	77 (.06)

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	ERW		MSS			MTS			ERW		MSS			MTS	
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
500	73 (.31)	74 (.06)	77 (.30)	80 (.05)	25	77 (.30)	80 (.05)	620	97 (.12)	97 (.02)	98 (.11)	98 (.02)	31	98 (.11)	98 (.02)
510	76 (.30)	77 (.06)	80 (.28)	83 (.05)	25.5	80 (.28)	83 (.05)	630	98 (.10)	98 (.02)	98 (.09)	98 (.02)	31.5	98 (.09)	98 (.02)
520	79 (.29)	80 (.05)	83 (.26)	86 (.05)	26	83 (.26)	86 (.05)	640	99 (.08)	99 (.02)	99 (.09)	98 (.02)	32	99 (.09)	98 (.02)
530	82 (.27)	83 (.05)	86 (.24)	88 (.04)	26.5	86 (.24)	88 (.04)	650	99 (.07)	99 (.01)	99 (.08)	99 (.02)	32.5	99 (.08)	99 (.02)
540	85 (.26)	85 (.05)	88 (.23)	90 (.04)	27	88 (.23)	90 (.04)	660	99 (.05)	99 (.01)	99 (.07)	99 (.01)	33	99 (.07)	99 (.01)
550	87 (.24)	87 (.05)	90 (.21)	92 (.04)	27.5	90 (.21)	92 (.04)	670	99+ (.04)	99+ (.01)	99 (.06)	99 (.01)	33.5	99 (.06)	99 (.01)
560	89 (.22)	89 (.04)	92 (.19)	93 (.03)	28	92 (.19)	93 (.03)	680	99+ (.03)	99+ (.01)	99+ (.05)	99 (.01)	34	99+ (.05)	99 (.01)
570	91 (.21)	91 (.04)	94 (.17)	94 (.03)	28.5	94 (.17)	94 (.03)	690	99+ (.02)	99+ (<.01)	99+ (.04)	99+ (.01)	34.5	99+ (.04)	99+ (.01)
580	93 (.19)	93 (.03)	95 (.15)	96 (.03)	29	95 (.15)	96 (.03)	700	99+ (.01)	99+ (<.01)	99+ (.03)	99+ (.01)	35	99+ (.03)	99+ (.01)
590	94 (.17)	94 (.03)	96 (.14)	96 (.03)	29.5	96 (.14)	96 (.03)	710	99+ (.01)	99+ (<.01)	99+ (.02)	99+ (.01)	35.5	99+ (.02)	99+ (.01)
600	95 (.15)	96 (.03)	97 (.13)	97 (.02)	30	97 (.13)	97 (.02)	720	99+ (<.01)	99+ (<.01)	99+ (.01)	99+ (<.01)	36	99+ (.01)	99+ (<.01)
610	96 (.14)	97 (.02)	97 (.11)	97 (.02)	30.5	97 (.11)	97 (.02)								

Table A-6.4.15: PSAT 8/9 9th-Grade Reading (R), and Writing and Language (WL) Test, and Analysis of History and Social Science (HSS) and Analysis of Science (SCI) Cross-Test Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
6	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)
7	1– (<.01)	1– (.01)	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	1– (<.01)	1– (.01)
8	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)
9	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1– (.01)	1 (.01)
10	1– (<.01)	1– (.01)	1– (.02)	1 (.01)	1– (.02)	1 (.01)	1– (.02)	1 (.01)
11	1– (.01)	1– (.01)	1– (.03)	1 (.01)	1– (.03)	1 (.01)	1– (.02)	1 (.01)
12	1– (.02)	1 (.01)	1– (.04)	1 (.01)	1– (.04)	1 (.01)	1– (.03)	1 (.02)
13	1– (.04)	1 (.01)	1 (.05)	2 (.02)	1 (.06)	2 (.02)	1– (.04)	2 (.02)
14	1 (.05)	2 (.02)	2 (.10)	4 (.03)	2 (.10)	4 (.03)	1 (.06)	3 (.02)
15	1 (.08)	3 (.02)	5 (.15)	8 (.03)	4 (.14)	7 (.03)	2 (.10)	5 (.03)
16	4 (.13)	6 (.03)	10 (.20)	13 (.04)	7 (.18)	11 (.04)	5 (.14)	8 (.04)
17	8 (.18)	11 (.04)	16 (.25)	20 (.05)	11 (.22)	16 (.05)	8 (.19)	13 (.04)
18	14 (.24)	18 (.05)	22 (.29)	27 (.06)	18 (.26)	23 (.05)	13 (.24)	18 (.05)
19	22 (.28)	26 (.06)	29 (.31)	34 (.06)	27 (.31)	31 (.06)	21 (.27)	26 (.06)
20	32 (.32)	35 (.06)	37 (.33)	41 (.07)	37 (.32)	42 (.06)	30 (.32)	35 (.06)
21	40 (.34)	44 (.07)	46 (.34)	49 (.07)	47 (.35)	51 (.07)	40 (.33)	44 (.07)
22	50 (.34)	52 (.07)	53 (.35)	56 (.07)	54 (.35)	58 (.07)	51 (.34)	54 (.07)
23	57 (.35)	59 (.07)	60 (.33)	62 (.06)	61 (.34)	64 (.07)	60 (.34)	62 (.07)
24	63 (.33)	65 (.06)	67 (.33)	69 (.06)	68 (.32)	70 (.06)	67 (.32)	69 (.06)
25	71 (.31)	72 (.06)	73 (.30)	75 (.06)	74 (.30)	76 (.06)	74 (.31)	75 (.06)
26	77 (.30)	77 (.06)	79 (.28)	81 (.05)	80 (.28)	81 (.05)	79 (.29)	79 (.05)
27	82 (.26)	83 (.05)	83 (.26)	85 (.05)	84 (.25)	85 (.05)	82 (.27)	83 (.05)
28	87 (.24)	87 (.05)	88 (.22)	89 (.04)	88 (.23)	89 (.04)	86 (.25)	86 (.05)
29	91 (.20)	91 (.04)	93 (.19)	93 (.03)	91 (.20)	92 (.04)	89 (.22)	89 (.04)

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	R		WL		HSS		SCI	
Score	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**	**National**	**User Group**
30	94 (.17)	94 (.03)	95 (.16)	95 (.03)	94 (.17)	94 (.03)	92 (.19)	92 (.04)
31	96 (.14)	96 (.03)	97 (.12)	97 (.02)	96 (.14)	96 (.03)	95 (.15)	95 (.03)
32	98 (.11)	98 (.02)	98 (.10)	98 (.02)	98 (.11)	98 (.02)	97 (.11)	97 (.02)
33	99 (.08)	99 (.01)	99 (.07)	99 (.01)	99 (.08)	99 (.02)	99 (.07)	99 (.01)
34	99 (.05)	99 (.01)	99+ (.04)	99+ (.01)	99 (.07)	99 (.01)	99+ (.04)	99+ (.01)
35	99+ (.03)	99+ (.01)	99+ (.02)	99+ (<.01)	99+ (.04)	99 (.01)	99+ (.03)	99+ (<.01)
36	99+ (.01)	99+ (<.01)	99+ (.01)	99+ (<.01)	99+ (.01)	99+ (<.01)	99+ (.02)	99+ (<.01)

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Table A-6.4.16: PSAT 8/9 9th-Grade Subscore Nationally Representative and College Board Cohort Norms (with Conditional Standard Errors)

	COE		WIC		SEC		EOI		HOA		PSD	
Score	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group
1	1– (.02)	1– (.01)	1 (.05)	1 (.01)	1 (.04)	1 (.01)	1– (.02)	1 (.01)	1– (.02)	1– (.01)	1– (.02)	1– (.01)
2	1 (.06)	1 (.01)	3 (.11)	4 (.03)	3 (.10)	4 (.03)	1 (.05)	2 (.02)	1– (.05)	1 (.01)	1– (.04)	1 (.01)
3	2 (.10)	4 (.02)	5 (.15)	8 (.03)	6 (.16)	9 (.04)	2 (.09)	4 (.02)	1 (.07)	2 (.02)	2 (.08)	3 (.02)
4	6 (.16)	8 (.04)	9 (.20)	12 (.04)	11 (.22)	15 (.05)	5 (.15)	8 (.03)	4 (.13)	6 (.03)	5 (.14)	6 (.03)
5	12 (.22)	15 (.05)	17 (.25)	21 (.05)	19 (.27)	22 (.05)	13 (.22)	17 (.05)	11 (.21)	15 (.04)	11 (.21)	14 (.04)
6	23 (.27)	26 (.06)	27 (.30)	31 (.06)	28 (.31)	32 (.06)	24 (.29)	28 (.06)	22 (.28)	27 (.06)	21 (.28)	25 (.06)
7	37 (.33)	40 (.06)	38 (.32)	42 (.06)	39 (.33)	42 (.07)	37 (.32)	40 (.06)	35 (.32)	42 (.06)	37 (.31)	42 (.06)
8	52 (.33)	54 (.06)	49 (.34)	52 (.07)	50 (.34)	54 (.07)	50 (.33)	53 (.07)	54 (.32)	60 (.06)	54 (.34)	58 (.07)
9	67 (.32)	67 (.06)	59 (.34)	61 (.07)	62 (.33)	65 (.06)	63 (.33)	65 (.06)	70 (.31)	74 (.06)	65 (.33)	68 (.06)
10	76 (.29)	76 (.06)	68 (.32)	69 (.06)	74 (.30)	75 (.06)	75 (.29)	76 (.05)	78 (.28)	82 (.05)	76 (.29)	78 (.05)
11	86 (.22)	86 (.04)	77 (.28)	77 (.05)	83 (.25)	84 (.05)	84 (.25)	85 (.05)	85 (.24)	87 (.04)	85 (.24)	86 (.04)
12	94 (.16)	94 (.03)	86 (.24)	86 (.05)	89 (.23)	89 (.04)	91 (.18)	92 (.03)	90 (.20)	92 (.04)	90 (.21)	91 (.04)
13	97 (.11)	97 (.02)	93 (.17)	93 (.03)	92 (.17)	93 (.03)	97 (.12)	97 (.02)	95 (.14)	95 (.03)	94 (.16)	94 (.03)
14	99 (.06)	99 (.01)	97 (.13)	96 (.03)	97 (.12)	97 (.02)	99 (.07)	99 (.01)	98 (.09)	98 (.02)	97 (.12)	97 (.02)
15	99+ (.02)	99+ (<.01)	99+ (.07)	99+ (.01)	99 (.06)	99 (.01)	99+ (.03)	99+ (<.01)	99 (.04)	99 (.01)	99 (.05)	99 (.01)

Table A-6.4.17: PSAT 8/9 8th-Grade Total Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group
240	1– (<.01)	1– (<.01)	550	1– (.06)	2 (.03)	860	60 (.53)	67 (.08)	1170	98 (.14)	99 (.02)
250	1– (<.01)	1– (<.01)	560	1 (.08)	3 (.03)	870	62 (.53)	69 (.08)	1180	99 (.13)	99 (.02)
260	1– (<.01)	1– (<.01)	570	1 (.10)	3 (.03)	880	65 (.52)	71 (.07)	1190	99 (.12)	99 (.02)
270	1– (<.01)	1– (<.01)	580	2 (.13)	4 (.03)	890	67 (.51)	73 (.07)	1200	99 (.11)	99 (.02)
280	1– (<.01)	1– (<.01)	590	2 (.16)	5 (.04)	900	69 (.50)	75 (.07)	1210	99 (.10)	99 (.01)
290	1– (<.01)	1– (<.01)	600	3 (.18)	6 (.04)	910	71 (.50)	76 (.07)	1220	99 (.09)	99 (.01)
300	1– (<.01)	1– (<.01)	610	3 (.20)	7 (.04)	920	73 (.48)	78 (.07)	1230	99 (.08)	99 (.01)
310	1– (<.01)	1– (<.01)	620	4 (.22)	8 (.04)	930	75 (.47)	80 (.07)	1240	99+ (.08)	99 (.01)
320	1– (<.01)	1– (<.01)	630	5 (.24)	9 (.05)	940	77 (.46)	81 (.06)	1250	99+ (.07)	99+ (.01)
330	1– (<.01)	1– (.01)	640	6 (.27)	11 (.05)	950	78 (.45)	83 (.06)	1260	99+ (.07)	99+ (.01)
340	1– (<.01)	1– (.01)	650	8 (.30)	13 (.05)	960	80 (.43)	84 (.06)	1270	99+ (.07)	99+ (.01)
350	1– (<.01)	1– (.01)	660	9 (.32)	15 (.06)	970	83 (.42)	85 (.06)	1280	99+ (.06)	99+ (.01)
360	1– (<.01)	1– (.01)	670	11 (.35)	17 (.06)	980	85 (.40)	87 (.06)	1290	99+ (.06)	99+ (.01)
370	1– (<.01)	1– (.01)	680	13 (.37)	19 (.06)	990	86 (.38)	88 (.05)	1300	99+ (.06)	99+ (.01)
380	1– (<.01)	1– (.01)	690	14 (.39)	22 (.07)	1000	88 (.36)	89 (.05)	1310	99+ (.06)	99+ (.01)
390	1– (<.01)	1– (.01)	700	16 (.40)	24 (.07)	1010	89 (.35)	90 (.05)	1320	99+ (.03)	99+ (.01)
400	1– (<.01)	1– (.01)	710	19 (.42)	27 (.07)	1020	91 (.33)	91 (.05)	1330	99+ (<.01)	99+ (.01)
410	1– (<.01)	1– (.01)	720	21 (.45)	30 (.07)	1030	92 (.31)	92 (.05)	1340	99+ (<.01)	99+ (<.01)
420	1– (<.01)	1– (.01)	730	23 (.46)	32 (.08)	1040	93 (.29)	92 (.04)	1350	99+ (<.01)	99+ (<.01)
430	1– (<.01)	1– (.01)	740	26 (.48)	35 (.08)	1050	94 (.27)	93 (.04)	1360	99+ (<.01)	99+ (<.01)
440	1– (<.01)	1– (.01)	750	29 (.50)	38 (.08)	1060	94 (.26)	94 (.04)	1370	99+ (<.01)	99+ (<.01)
450	1– (<.01)	1 (.01)	760	32 (.52)	41 (.08)	1070	95 (.25)	95 (.04)	1380	99+ (<.01)	99+ (<.01)
460	1– (<.01)	1 (.01)	770	35 (.53)	44 (.08)	1080	96 (.23)	95 (.04)	1390	99+ (<.01)	99+ (<.01)
470	1– (.01)	1 (.01)	780	38 (.53)	47 (.08)	1090	96 (.22)	96 (.03)	1400	99+ (<.01)	99+ (<.01)
480	1– (.01)	1 (.01)	790	41 (.54)	50 (.08)	1100	97 (.21)	96 (.03)	1410	99+ (<.01)	99+ (<.01)
490	1– (.01)	1 (.02)	800	44 (.55)	52 (.08)	1110	97 (.20)	97 (.03)	1420	99+ (<.01)	99+ (<.01)
500	1– (.02)	1 (.02)	810	47 (.55)	55 (.08)	1120	97 (.19)	97 (.03)	1430	99+ (<.01)	99+ (<.01)
510	1– (.03)	1 (.02)	820	50 (.55)	58 (.08)	1130	98 (.17)	97 (.03)	1440	99+ (<.01)	99+ (<.01)
520	1– (.04)	2 (.02)	830	52 (.55)	60 (.08)	1140	98 (.16)	98 (.02)			
530	1– (.04)	2 (.02)	840	55 (.54)	62 (.08)	1150	98 (.15)	98 (.02)			
540	1– (.05)	2 (.02)	850	57 (.54)	65 (.08)	1160	98 (.15)	98 (.02)			

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Table A-6.4.18: PSAT 8/9 8th-Grade Evidence-Based Reading and Writing (ERW), Math Section (MSS), and Derived Math Test Score (MTS) Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	ERW		MSS		MTS				ERW		MSS		MTS		
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
120	1– (<.01)	1– (<.01)	1– (<.01)	1– (<.01)	6	1– (<.01)	1– (<.01)	310	4 (.22)	9 (.05)	8 (.32)	11 (.05)	15.5	8 (.32)	11 (.05)
130	1– (<.01)	1– (<.01)	1– (<.01)	1– (.01)	6.5	1– (<.01)	1– (.01)	320	6 (.26)	13 (.05)	11 (.33)	14 (.05)	16	11 (.33)	14 (.05)
140	1– (<.01)	1– (.01)	1– (<.01)	1– (.01)	7	1– (<.01)	1– (.01)	330	9 (.31)	17 (.06)	13 (.38)	17 (.06)	16.5	13 (.38)	17 (.06)
150	1– (<.01)	1– (.01)	1– (<.01)	1– (.01)	7.5	1– (<.01)	1– (.01)	340	13 (.36)	22 (.07)	16 (.39)	21 (.06)	17	16 (.39)	21 (.06)
160	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	8	1– (.01)	1– (.01)	350	17 (.40)	27 (.07)	19 (.45)	25 (.07)	17.5	19 (.45)	25 (.07)
170	1– (<.01)	1– (.01)	1– (.01)	1– (.01)	8.5	1– (.01)	1– (.01)	360	22 (.44)	32 (.08)	22 (.45)	29 (.07)	18	22 (.45)	29 (.07)
180	1– (<.01)	1– (.01)	1– (.02)	1 (.01)	9	1– (.02)	1 (.01)	370	27 (.48)	37 (.08)	26 (.50)	33 (.08)	18.5	26 (.50)	33 (.08)
190	1– (<.01)	1– (.01)	1– (.03)	1 (.01)	9.5	1– (.03)	1 (.01)	380	33 (.51)	42 (.08)	30 (.49)	37 (.08)	19	30 (.49)	37 (.08)
200	1– (<.01)	1– (.01)	1– (.04)	1 (.01)	10	1– (.04)	1 (.01)	390	39 (.52)	48 (.08)	38 (.53)	45 (.08)	19.5	38 (.53)	45 (.08)
210	1– (<.01)	1 (.01)	1– (.06)	1 (.02)	10.5	1– (.06)	1 (.02)	400	44 (.54)	53 (.08)	46 (.53)	52 (.08)	20	46 (.53)	52 (.08)
220	1– (.03)	1 (.01)	1– (.06)	1 (.02)	11	1– (.06)	1 (.02)	410	49 (.54)	57 (.08)	50 (.56)	56 (.08)	20.5	50 (.56)	56 (.08)
230	1– (.06)	1 (.02)	1 (.08)	2 (.02)	11.5	1 (.08)	2 (.02)	420	54 (.54)	61 (.08)	53 (.54)	60 (.08)	21	53 (.54)	60 (.08)
240	1– (.06)	1 (.02)	1 (.12)	2 (.02)	12	1 (.12)	2 (.02)	430	58 (.53)	65 (.08)	58 (.53)	66 (.08)	21.5	58 (.53)	66 (.08)
250	1– (.07)	2 (.02)	2 (.14)	3 (.03)	12.5	2 (.14)	3 (.03)	440	63 (.52)	69 (.08)	63 (.52)	71 (.07)	22	63 (.52)	71 (.07)
260	1 (.09)	2 (.02)	2 (.18)	4 (.03)	13	2 (.18)	4 (.03)	450	67 (.51)	72 (.07)	69 (.49)	75 (.07)	22.5	69 (.49)	75 (.07)
270	1 (.11)	3 (.03)	2 (.18)	4 (.03)	13.5	2 (.18)	4 (.03)	460	71 (.50)	75 (.07)	75 (.46)	79 (.07)	23	75 (.46)	79 (.07)
280	1 (.12)	3 (.03)	3 (.19)	5 (.03)	14	3 (.19)	5 (.03)	470	74 (.48)	78 (.07)	79 (.44)	82 (.06)	23.5	79 (.44)	82 (.06)
290	2 (.14)	5 (.03)	5 (.24)	7 (.04)	14.5	5 (.24)	7 (.04)	480	78 (.45)	81 (.06)	83 (.41)	85 (.06)	24	83 (.41)	85 (.06)
300	3 (.17)	7 (.04)	6 (.26)	9 (.04)	15	6 (.26)	9 (.04)	490	81 (.43)	83 (.06)	85 (.38)	88 (.05)	24.5	85 (.38)	88 (.05)

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	ERW		MSS			MTS			ERW		MSS			MTS	
Score	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group	National	User Group	Score	National	User Group
500	84 (.41)	85 (.06)	88 (.35)	90 (.05)	25	88 (.35)	90 (.05)	620	99 (.11)	99 (.02)	99 (.10)	99 (.01)	31	99 (.10)	99 (.01)
510	86 (.38)	87 (.05)	91 (.32)	92 (.04)	25.5	91 (.32)	92 (.04)	630	99 (.10)	99 (.01)	99 (.09)	99 (.01)	31.5	99 (.09)	99 (.01)
520	89 (.35)	89 (.05)	93 (.29)	93 (.04)	26	93 (.29)	93 (.04)	640	99 (.08)	99 (.01)	99 (.08)	99 (.01)	32	99 (.08)	99 (.01)
530	91 (.32)	91 (.05)	94 (.25)	95 (.04)	26.5	94 (.25)	95 (.04)	650	99+ (.06)	99+ (.01)	99+ (.07)	99+ (.01)	32.5	99+ (.07)	99+ (.01)
540	92 (.30)	92 (.04)	96 (.22)	96 (.03)	27	96 (.22)	96 (.03)	660	99+ (.05)	99+ (.01)	99+ (.07)	99+ (.01)	33	99+ (.07)	99+ (.01)
550	94 (.27)	94 (.04)	97 (.20)	97 (.03)	27.5	97 (.20)	97 (.03)	670	99+ (.03)	99+ (.01)	99+ (.07)	99+ (.01)	33.5	99+ (.07)	99+ (.01)
560	95 (.24)	95 (.04)	98 (.17)	97 (.03)	28	98 (.17)	97 (.03)	680	99+ (.02)	99+ (<.01)	99+ (.03)	99+ (.01)	34	99+ (.03)	99+ (.01)
570	96 (.21)	96 (.03)	98 (.15)	98 (.02)	28.5	98 (.15)	98 (.02)	690	99+ (<.01)	99+ (<.01)	99+ (.01)	99+ (.01)	34.5	99+ (.01)	99+ (.01)
580	97 (.18)	97 (.03)	99 (.13)	98 (.02)	29	99 (.13)	98 (.02)	700	99+ (<.01)	99+ (<.01)	99+ (.01)	99+ (<.01)	35	99+ (.01)	99+ (<.01)
590	98 (.16)	98 (.03)	99 (.13)	99 (.02)	29.5	99 (.13)	99 (.02)	710	99+ (<.01)	99+ (<.01)	99+ (.01)	99+ (<.01)	35.5	99+ (.01)	99+ (<.01)
600	98 (.14)	98 (.02)	99 (.12)	99 (.02)	30	99 (.12)	99 (.02)	720	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	36	99+ (<.01)	99+ (<.01)
610	99 (.13)	99 (.02)	99 (.10)	99 (.01)	30.5	99 (.10)	99 (.01)								

Table A-6.4.19: PSAT 8/9 8th-Grade Reading (R), and Writing and Language (WL) Test, and Analysis of History and Social Science (HSS) and Analysis of Science (SCI) Cross-Test Score Nationally Representative and College Board User Norms (with Conditional Standard Errors)

	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
6	1– (<.01)	1– (.01)	1– (<.01)	1– (<.01)	1– (.02)	1– (.01)	1– (<.01)	1– (.01)
7	1– (<.01)	1– (.01)	1– (.03)	1– (.01)	1– (.03)	1– (.01)	1– (<.01)	1– (.01)
8	1– (<.01)	1 (.01)	1– (.06)	1 (.01)	1– (.03)	1 (.01)	1– (.02)	1 (.01)
9	1– (<.01)	1 (.01)	1– (.06)	1 (.01)	1– (.03)	1 (.02)	1– (.04)	2 (.02)
10	1– (.03)	1 (.01)	1– (.07)	1 (.02)	1– (.05)	1 (.02)	1– (.04)	2 (.02)
11	1– (.06)	1 (.02)	1– (.08)	2 (.02)	1– (.08)	2 (.02)	1– (.04)	2 (.02)
12	1– (.07)	1 (.02)	1 (.09)	2 (.02)	1 (.09)	2 (.02)	1– (.07)	3 (.03)
13	1 (.09)	2 (.02)	1 (.10)	3 (.03)	1 (.11)	4 (.03)	1 (.09)	4 (.03)
14	1 (.11)	3 (.03)	3 (.16)	7 (.04)	3 (.17)	7 (.04)	2 (.15)	7 (.04)
15	2 (.15)	5 (.03)	6 (.25)	13 (.05)	5 (.24)	11 (.05)	5 (.22)	10 (.05)
16	6 (.24)	10 (.05)	13 (.34)	21 (.06)	9 (.30)	16 (.06)	8 (.29)	15 (.06)
17	11 (.33)	17 (.06)	21 (.42)	30 (.07)	15 (.38)	23 (.07)	14 (.37)	21 (.06)
18	18 (.40)	26 (.07)	28 (.49)	38 (.08)	24 (.43)	33 (.07)	19 (.43)	28 (.07)
19	29 (.46)	37 (.07)	36 (.50)	46 (.08)	34 (.51)	44 (.08)	29 (.46)	38 (.07)
20	41 (.52)	49 (.08)	47 (.52)	55 (.08)	47 (.51)	55 (.08)	40 (.52)	49 (.08)
21	52 (.53)	58 (.08)	57 (.52)	64 (.08)	60 (.53)	65 (.08)	50 (.52)	58 (.08)
22	61 (.52)	66 (.08)	65 (.52)	70 (.07)	66 (.51)	71 (.07)	62 (.50)	68 (.07)
23	67 (.51)	72 (.07)	72 (.48)	76 (.07)	73 (.48)	76 (.07)	70 (.49)	75 (.07)
24	74 (.46)	77 (.07)	78 (.46)	81 (.06)	79 (.44)	81 (.06)	78 (.44)	81 (.06)
25	82 (.42)	83 (.06)	84 (.39)	85 (.06)	84 (.39)	86 (.06)	84 (.40)	86 (.06)
26	86 (.38)	87 (.05)	89 (.34)	90 (.05)	88 (.35)	89 (.05)	87 (.36)	88 (.05)
27	90 (.31)	90 (.05)	91 (.31)	92 (.04)	92 (.30)	92 (.04)	90 (.32)	91 (.05)
28	94 (.27)	93 (.04)	95 (.23)	95 (.03)	94 (.25)	94 (.04)	93 (.29)	93 (.04)

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	R		WL		HSS		SCI	
Score	National	User Group	National	User Group	National	User Group	National	User Group
29	96 (.22)	95 (.03)	97 (.18)	97 (.03)	96 (.21)	96 (.03)	95 (.25)	95 (.04)
30	97 (.17)	97 (.03)	98 (.15)	98 (.02)	97 (.17)	97 (.02)	97 (.20)	96 (.03)
31	98 (.14)	98 (.02)	99 (.12)	99 (.02)	98 (.14)	98 (.02)	98 (.15)	98 (.02)
32	99 (.10)	99 (.02)	99 (.10)	99 (.01)	99 (.11)	99 (.01)	99 (.12)	99 (.02)
33	99+ (.07)	99 (.01)	99+ (.05)	99+ (.01)	99+ (.06)	99+ (.01)	99 (.08)	99 (.01)
34	99+ (.04)	99+ (.01)	99+ (.02)	99+ (.01)	99+ (.05)	99+ (.01)	99+ (.03)	99+ (.01)
35	99+ (.02)	99+ (<.01)	99+ (.01)	99+ (<.01)	99+ (.02)	99+ (.01)	99+ (.01)	99+ (<.01)
36	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)	99+ (<.01)

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Table A-6.4.20: PSAT 8/9 8th-Grade Subscore Nationally Representative and College Board Cohort Norms (with Conditional Standard Errors)

	COE		WIC		SEC		EOI		HOA		PSD	
Score	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group
1	1– (.04)	1 (.01)	1 (.08)	1– (.02)	1 (.07)	1– (.02)	1– (.04)	1 (.01)	1– (.03)	1 (.01)	1– (.02)	1– (.01)
2	1 (.11)	3 (.02)	3 (.18)	7 (.04)	3 (.17)	6 (.04)	1 (.10)	3 (.03)	1– (.06)	1 (.02)	1 (.08)	2 (.02)
3	4 (.19)	6 (.04)	6 (.25)	12 (.05)	7 (.26)	12 (.05)	2 (.15)	6 (.04)	2 (.11)	3 (.02)	3 (.16)	4 (.03)
4	8 (.28)	12 (.05)	11 (.33)	19 (.06)	13 (.36)	21 (.06)	6 (.24)	13 (.05)	7 (.24)	9 (.04)	8 (.27)	9 (.04)
5	15 (.37)	20 (.06)	22 (.41)	31 (.07)	22 (.43)	31 (.07)	16 (.37)	25 (.06)	16 (.38)	21 (.06)	15 (.37)	18 (.06)
6	29 (.44)	35 (.07)	35 (.50)	45 (.08)	35 (.50)	43 (.08)	31 (.46)	40 (.08)	30 (.47)	36 (.07)	26 (.45)	31 (.07)
7	45 (.52)	52 (.08)	49 (.50)	57 (.08)	48 (.53)	55 (.08)	46 (.51)	54 (.08)	46 (.52)	53 (.08)	46 (.47)	50 (.07)
8	62 (.48)	66 (.07)	62 (.51)	68 (.07)	61 (.52)	66 (.07)	60 (.51)	67 (.07)	65 (.46)	72 (.07)	66 (.50)	68 (.07)
9	78 (.44)	79 (.06)	71 (.48)	75 (.07)	73 (.46)	77 (.07)	74 (.45)	78 (.06)	81 (.41)	85 (.06)	76 (.45)	78 (.06)
10	85 (.37)	86 (.06)	80 (.42)	82 (.06)	84 (.39)	85 (.05)	86 (.35)	86 (.05)	88 (.33)	90 (.05)	84 (.38)	86 (.05)
11	93 (.25)	92 (.04)	87 (.36)	88 (.05)	91 (.29)	92 (.04)	92 (.29)	92 (.04)	93 (.26)	94 (.04)	91 (.31)	92 (.04)
12	97 (.17)	97 (.03)	92 (.27)	93 (.04)	94 (.27)	95 (.04)	96 (.19)	96 (.03)	96 (.21)	96 (.03)	95 (.24)	95 (.03)
13	99 (.11)	99 (.02)	97 (.16)	97 (.03)	96 (.20)	96 (.03)	99 (.11)	99 (.02)	98 (.13)	98 (.02)	97 (.17)	97 (.02)
14	99+ (.07)	99+ (.01)	99 (.12)	98 (.02)	99 (.11)	99 (.02)	99+ (.07)	99+ (.01)	99 (.09)	99 (.01)	99 (.12)	99 (.02)
15	99+ (.03)	99+ (<.01)	99 (.06)	99 (.01)	99+ (.04)	99+ (.01)	99+ (.03)	99+ (<.01)	99+ (.04)	99+ (.01)	99+ (.06)	99+ (.01)

Table A-6.5: Raw Score Reliability Estimates by Score Tier for All Forms

Statistics	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
SAT Form 1												
KR20	0.89	0.89	0.90	0.83	0.84	0.74	0.71	0.84	0.77	0.78	0.65	0.72
KR20_SEM	3.01	2.70	3.08	2.48	2.44	1.82	1.60	1.96	1.83	1.65	1.69	1.69
Str_Alpha	0.89	0.89	0.90	0.83	0.84	0.74	0.71	0.84	0.77	0.78	0.65	0.72
Str_SEM	2.96	2.68	3.07	2.46	2.42	1.81	1.59	1.94	1.82	1.64	1.69	1.69
SAT Form 2												
KR20	0.88	0.84	0.92	0.82	0.84	0.71	0.67	0.75	0.70	0.78	0.77	0.77
KR20_SEM	3.02	2.72	3.11	2.48	2.54	1.75	1.73	2.06	1.77	1.79	1.55	1.72
Str_Alpha	0.88	0.84	0.92	0.82	0.84	0.71	0.67	0.75	0.71	0.78	0.77	0.77
Str_SEM	2.97	2.70	3.10	2.46	2.52	1.75	1.73	2.05	1.76	1.79	1.55	1.72
SAT Form 3												
KR20	0.89	0.86	0.92	0.83	0.84	0.69	0.71	0.74	0.77	0.81	0.79	0.75
KR20_SEM	2.97	2.77	3.13	2.46	2.47	1.85	1.72	2.12	1.78	1.83	1.58	1.69
Str_Alpha	0.89	0.86	0.92	0.83	0.84	0.69	0.72	0.75	0.77	0.81	0.79	0.75
Str_SEM	2.92	2.76	3.12	2.44	2.44	1.85	1.71	2.11	1.77	1.83	1.58	1.69
PSAT/NMSQT and PSAT 10 Form 1												
KR20	0.87	0.89	0.90	0.83	0.84	0.75	0.78	0.83	0.76	0.76	0.73	0.75
KR20_SEM	2.99	2.87	2.88	2.44	2.47	1.88	1.76	2.12	1.93	1.74	1.61	1.52
Str_Alpha	0.87	0.89	0.90	0.83	0.84	0.75	0.79	0.83	0.76	0.76	0.73	0.75
Str_SEM	2.96	2.85	2.88	2.42	2.45	1.87	1.76	2.11	1.92	1.74	1.61	1.52
PSAT/NMSQT and PSAT 10 Form 2												
KR20	0.86	0.87	0.90	0.82	0.84	0.71	0.78	0.82	0.70	0.77	0.79	0.70
KR20_SEM	3.05	2.92	2.96	2.46	2.54	1.89	1.80	2.15	1.97	1.77	1.70	1.53
Str_Alpha	0.86	0.87	0.90	0.83	0.85	0.72	0.78	0.82	0.70	0.77	0.79	0.70
Str_SEM	3.00	2.92	2.96	2.44	2.52	1.88	1.79	2.15	1.97	1.77	1.70	1.53

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Statistics	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
PSAT 8/9 Form 1												
KR20	0.88	0.86	0.88	0.83	0.83	0.74	0.80	0.82	0.63	0.73	0.74	
KR20_SEM	2.77	2.80	2.59	2.29	2.40	1.84	1.77	2.15	1.79	1.70	1.67	N/A
Str_Alpha	0.88	0.86	0.88	0.83	0.84	0.74	0.81	0.82	0.63	0.73	0.74	
Str_SEM	2.72	2.79	2.59	2.27	2.38	1.83	1.76	2.14	1.79	1.70	1.67	
PSAT 8/9 Form 2												
KR20	0.85	0.86	0.86	0.80	0.76	0.74	0.74	0.78	0.73	0.74	0.72	
KR20_SEM	2.82	2.76	2.55	2.29	2.44	1.87	1.83	2.18	1.69	1.61	1.67	N/A
Str_Alpha	0.86	0.86	0.86	0.81	0.76	0.74	0.74	0.78	0.73	0.74	0.72	
Str_SEM	2.78	2.75	2.55	2.27	2.42	1.86	1.82	2.16	1.69	1.60	1.67	

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Table A-6.6: Scale Score Reliability Estimates by Score Tier for All Forms

Statistics	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
SAT Form 1															
Reliability	0.88	0.88	0.90	0.82	0.84	0.75	0.71	0.82	0.77	0.74	0.67	0.71	0.94	0.90	0.95
RMS(CSEM)	1.59	1.71	1.56	2.02	1.90	1.28	1.36	1.09	1.35	1.28	1.67	1.54	23.33	31.17	38.94
SAT Form 2															
Reliability	0.87	0.84	0.92	0.81	0.84	0.71	0.67	0.74	0.72	0.76	0.77	0.76	0.92	0.92	0.95
RMS(CSEM)	1.68	1.95	1.39	2.03	1.90	1.30	1.43	1.28	1.53	1.19	1.34	1.38	25.77	27.78	37.90
SAT Form 3															
Reliability	0.89	0.86	0.92	0.83	0.84	0.69	0.71	0.74	0.78	0.78	0.78	0.72	0.93	0.92	0.96
RMS(CSEM)	1.61	1.88	1.39	1.99	1.95	1.33	1.52	1.36	1.36	1.17	1.34	1.45	24.75	27.88	37.27
PSAT/NMSQT and PSAT 10 Form 1															
Reliability	0.87	0.89	0.88	0.83	0.84	0.74	0.78	0.82	0.76	0.75	0.73	0.68	0.93	0.88	0.95
RMS(CSEM)	1.87	1.84	1.66	2.16	2.10	1.32	1.35	1.08	1.29	1.54	1.34	1.59	26.25	33.21	42.33
PSAT/NMSQT and PSAT 10 Form 2															
Reliability	0.86	0.87	0.89	0.82	0.84	0.71	0.78	0.81	0.69	0.76	0.77	0.68	0.92	0.89	0.95
RMS(CSEM)	1.78	1.88	1.50	2.02	1.94	1.31	1.34	1.11	1.38	1.37	1.19	1.52	25.84	30.03	39.61
PSAT 8/9 Form 1															
Reliability	0.88	0.85	0.85	0.83	0.82	0.74	0.81	0.81	0.65	0.72	0.74	N/A	0.92	0.85	0.94
RMS(CSEM)	1.60	1.85	1.63	1.99	2.08	1.38	1.47	1.21	1.89	1.36	1.34		24.47	32.61	40.77
PSAT 8/9 Form 2															
Reliability	0.85	0.86	0.85	0.80	0.76	0.74	0.75	0.78	0.75	0.73	0.73	N/A	0.92	0.85	0.93
RMS(CSEM)	1.67	1.76	1.57	2.04	2.17	1.35	1.63	1.31	1.66	1.34	1.43		24.26	31.44	39.71

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Table A-6.7.1: Raw Score Reliability Estimates by Subgroup and Score Tier for SAT Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Race/ Ethnicity	Whites	KR20	0.87	0.87	0.87	0.80	0.82	0.72	0.64	0.82	0.74	0.71	0.58	0.69
		KR20_SEM	2.99	2.66	3.06	2.46	2.42	1.80	1.56	1.93	1.81	1.63	1.68	1.70
		Str_Alpha	0.88	0.87	0.87	0.80	0.82	0.73	0.65	0.82	0.74	0.71	0.58	0.69
		Str_SEM	2.93	2.65	3.06	2.44	2.40	1.80	1.56	1.91	1.81	1.62	1.68	1.69
	Blacks	KR20	0.87	0.86	0.88	0.79	0.81	0.64	0.71	0.79	0.72	0.81	0.61	0.54
		KR20_SEM	3.18	2.93	3.22	2.58	2.58	1.90	1.78	2.15	1.98	1.84	1.78	1.66
		Str_Alpha	0.88	0.86	0.88	0.80	0.82	0.64	0.72	0.79	0.72	0.81	0.61	0.54
		Str_SEM	3.12	2.92	3.22	2.57	2.57	1.90	1.77	2.13	1.97	1.83	1.78	1.66
	Hispanics	KR20	0.90	0.90	0.91	0.84	0.86	0.76	0.76	0.85	0.79	0.83	0.69	0.69
		KR20_SEM	3.06	2.76	3.14	2.52	2.48	1.84	1.66	2.02	1.87	1.71	1.73	1.68
		Str_Alpha	0.91	0.90	0.91	0.84	0.86	0.76	0.76	0.85	0.79	0.83	0.69	0.69
		Str_SEM	3.02	2.74	3.13	2.50	2.46	1.84	1.66	2.00	1.85	1.70	1.73	1.69
	Asians	KR20	0.88	0.89	0.91	0.83	0.83	0.76	0.71	0.85	0.76	0.75	0.72	0.78
		KR20_SEM	2.97	2.56	2.87	2.43	2.39	1.77	1.56	1.86	1.74	1.46	1.61	1.60
		Str_Alpha	0.88	0.89	0.92	0.83	0.84	0.76	0.71	0.85	0.76	0.75	0.72	0.78
		Str_SEM	2.91	2.54	2.86	2.41	2.35	1.76	1.56	1.84	1.74	1.46	1.61	1.60
	Two or more races	KR20	0.89	0.89	0.89	0.81	0.82	0.75	0.70	0.84	0.79	0.72	0.67	0.72
		KR20_SEM	2.95	2.61	3.04	2.44	2.37	1.78	1.54	1.88	1.79	1.61	1.67	1.68
		Str_Alpha	0.89	0.89	0.89	0.82	0.82	0.75	0.70	0.85	0.79	0.72	0.67	0.73
		Str_SEM	2.89	2.59	3.03	2.43	2.35	1.78	1.53	1.86	1.77	1.62	1.67	1.67

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Gender	Males	KR20	0.89	0.89	0.90	0.84	0.85	0.75	0.72	0.84	0.77	0.78	0.66	0.75
		KR20_SEM	3.00	2.72	3.05	2.47	2.43	1.81	1.62	1.97	1.86	1.62	1.67	1.69
		Str_Alpha	0.90	0.89	0.90	0.84	0.85	0.75	0.72	0.85	0.77	0.78	0.66	0.75
		Str_SEM	2.95	2.70	3.04	2.46	2.41	1.80	1.61	1.95	1.84	1.62	1.67	1.68
	Females	KR20	0.88	0.88	0.89	0.82	0.82	0.74	0.70	0.83	0.76	0.77	0.64	0.67
		KR20_SEM	3.02	2.67	3.10	2.48	2.44	1.82	1.58	1.95	1.81	1.67	1.70	1.69
		Str_Alpha	0.89	0.88	0.89	0.82	0.82	0.74	0.70	0.83	0.76	0.77	0.64	0.67
		Str_SEM	2.97	2.66	3.09	2.46	2.43	1.81	1.57	1.93	1.80	1.66	1.70	1.69
Grade Level	11th	KR20	0.87	0.88	0.88	0.81	0.82	0.73	0.67	0.83	0.75	0.72	0.62	0.71
		KR20_SEM	2.98	2.65	3.05	2.46	2.41	1.80	1.57	1.92	1.81	1.62	1.67	1.69
		Str_Alpha	0.88	0.88	0.88	0.81	0.82	0.73	0.67	0.83	0.75	0.72	0.62	0.71
		Str_SEM	2.93	2.64	3.05	2.44	2.39	1.79	1.56	1.91	1.80	1.61	1.67	1.69
	12th	KR20	0.87	0.86	0.87	0.81	0.81	0.65	0.71	0.79	0.72	0.82	0.63	0.58
		KR20_SEM	3.19	2.92	3.22	2.58	2.59	1.90	1.77	2.14	1.98	1.80	1.78	1.64
		Str_Alpha	0.88	0.86	0.87	0.81	0.81	0.66	0.72	0.79	0.73	0.82	0.63	0.59
		Str_SEM	3.13	2.91	3.21	2.57	2.57	1.90	1.76	2.12	1.97	1.80	1.78	1.64

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Table A-6.7.2: Raw Score Reliability Estimates by Subgroup and Score Tier for SAT Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Race/ Ethnicity	Whites	KR20	0.86	0.82	0.91	0.80	0.82	0.67	0.63	0.72	0.67	0.76	0.73	0.75
		KR20_SEM	2.95	2.64	3.08	2.43	2.47	1.70	1.68	2.01	1.72	1.77	1.52	1.72
		Str_Alpha	0.87	0.82	0.91	0.81	0.83	0.67	0.63	0.72	0.68	0.76	0.73	0.75
		Str_SEM	2.89	2.63	3.08	2.41	2.46	1.70	1.67	2.00	1.71	1.77	1.52	1.72
	Blacks	KR20	0.84	0.80	0.89	0.78	0.79	0.66	0.62	0.69	0.66	0.71	0.73	0.70
		KR20_SEM	3.18	2.87	3.21	2.59	2.68	1.85	1.83	2.16	1.89	1.86	1.65	1.74
		Str_Alpha	0.84	0.80	0.89	0.78	0.80	0.66	0.62	0.69	0.66	0.71	0.73	0.70
		Str_SEM	3.13	2.86	3.20	2.58	2.66	1.85	1.83	2.16	1.87	1.86	1.65	1.75
	Hispanics	KR20	0.85	0.81	0.91	0.79	0.81	0.68	0.63	0.71	0.66	0.73	0.75	0.73
		KR20_SEM	3.13	2.81	3.19	2.55	2.65	1.82	1.80	2.13	1.83	1.84	1.62	1.75
		Str_Alpha	0.86	0.81	0.91	0.79	0.82	0.68	0.63	0.71	0.67	0.73	0.75	0.73
		Str_SEM	3.08	2.80	3.19	2.53	2.63	1.82	1.79	2.12	1.82	1.84	1.62	1.75
	Asians	KR20	0.88	0.85	0.94	0.83	0.84	0.72	0.68	0.76	0.71	0.81	0.79	0.81
		KR20_SEM	3.02	2.69	2.91	2.46	2.52	1.75	1.74	2.05	1.74	1.69	1.47	1.62
		Str_Alpha	0.89	0.85	0.94	0.83	0.84	0.72	0.68	0.76	0.72	0.81	0.79	0.81
		Str_SEM	2.97	2.68	2.90	2.43	2.49	1.75	1.73	2.04	1.73	1.69	1.47	1.62
	Hawaiians	KR20	0.85	0.80	0.91	0.78	0.81	0.67	0.63	0.69	0.64	0.76	0.73	0.73
		KR20_SEM	3.14	2.83	3.17	2.56	2.65	1.84	1.79	2.14	1.85	1.82	1.62	1.75
		Str_Alpha	0.85	0.80	0.91	0.78	0.81	0.67	0.63	0.70	0.65	0.76	0.73	0.73
		Str_SEM	3.09	2.81	3.17	2.55	2.64	1.84	1.79	2.13	1.84	1.82	1.62	1.75
	American Indians/Alaska Natives	KR20	0.87	0.84	0.91	0.81	0.84	0.71	0.67	0.75	0.71	0.76	0.75	0.77
		KR20_SEM	3.10	2.79	3.14	2.54	2.59	1.79	1.79	2.11	1.82	1.82	1.59	1.73
		Str_Alpha	0.88	0.84	0.92	0.81	0.84	0.71	0.67	0.75	0.71	0.76	0.75	0.77
		Str_SEM	3.04	2.78	3.14	2.52	2.58	1.79	1.78	2.10	1.81	1.82	1.59	1.73
	Two or more races	KR20	0.87	0.84	0.92	0.82	0.84	0.69	0.67	0.75	0.70	0.77	0.76	0.78
		KR20_SEM	2.97	2.67	3.08	2.44	2.50	1.73	1.70	2.03	1.73	1.78	1.53	1.71
		Str_Alpha	0.88	0.84	0.92	0.82	0.85	0.70	0.67	0.75	0.70	0.77	0.76	0.78
		Str_SEM	2.91	2.66	3.08	2.43	2.48	1.73	1.69	2.02	1.73	1.78	1.53	1.71

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Gender	Males	KR20	0.88	0.85	0.93	0.83	0.85	0.72	0.68	0.76	0.71	0.79	0.78	0.79
		KR20_SEM	3.00	2.71	3.05	2.46	2.50	1.74	1.71	2.05	1.78	1.76	1.51	1.71
		Str_Alpha	0.89	0.85	0.93	0.83	0.85	0.72	0.68	0.76	0.71	0.79	0.78	0.79
		Str_SEM	2.94	2.70	3.05	2.44	2.48	1.74	1.71	2.04	1.77	1.76	1.51	1.71
	Females	KR20	0.87	0.83	0.91	0.81	0.83	0.69	0.65	0.74	0.70	0.75	0.75	0.75
		KR20_SEM	3.04	2.71	3.14	2.49	2.57	1.76	1.75	2.07	1.76	1.81	1.58	1.73
		Str_Alpha	0.87	0.83	0.91	0.81	0.83	0.69	0.65	0.74	0.70	0.75	0.75	0.75
		Str_SEM	2.99	2.70	3.14	2.48	2.55	1.76	1.74	2.06	1.75	1.81	1.58	1.73
Grade Level	11th	KR20	0.87	0.84	0.92	0.82	0.84	0.70	0.66	0.74	0.70	0.77	0.77	0.77
		KR20_SEM	3.01	2.70	3.10	2.47	2.53	1.75	1.73	2.05	1.76	1.79	1.54	1.72
		Str_Alpha	0.88	0.84	0.92	0.82	0.84	0.70	0.66	0.75	0.70	0.77	0.77	0.77
		Str_SEM	2.96	2.69	3.09	2.45	2.51	1.75	1.72	2.04	1.75	1.79	1.54	1.72
	12th	KR20	0.85	0.82	0.90	0.78	0.81	0.69	0.64	0.72	0.69	0.73	0.76	0.70
		KR20_SEM	3.17	2.88	3.21	2.59	2.68	1.84	1.84	2.17	1.88	1.85	1.65	1.75
		Str_Alpha	0.86	0.83	0.90	0.79	0.81	0.70	0.65	0.72	0.69	0.73	0.76	0.70
		Str_SEM	3.12	2.86	3.21	2.57	2.65	1.84	1.84	2.16	1.87	1.85	1.65	1.75

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Table A-6.7.3: Raw Score Reliability Estimates by Subgroup and Score Tier for SAT Form 3

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Race/ Ethnicity	Whites	KR20	0.87	0.84	0.91	0.81	0.82	0.65	0.68	0.72	0.74	0.79	0.75	0.72
		KR20_SEM	2.89	2.69	3.11	2.41	2.41	1.81	1.67	2.08	1.70	1.83	1.53	1.70
		Str_Alpha	0.88	0.84	0.91	0.81	0.82	0.65	0.69	0.73	0.74	0.79	0.75	0.72
		Str_SEM	2.83	2.67	3.10	2.39	2.37	1.81	1.66	2.06	1.69	1.83	1.53	1.70
	Blacks	KR20	0.87	0.83	0.90	0.80	0.79	0.66	0.68	0.69	0.73	0.74	0.77	0.66
		KR20_SEM	3.14	2.93	3.21	2.55	2.60	1.93	1.82	2.21	1.93	1.88	1.68	1.70
		Str_Alpha	0.87	0.83	0.90	0.81	0.79	0.66	0.68	0.70	0.73	0.74	0.77	0.66
		Str_SEM	3.09	2.92	3.20	2.54	2.57	1.93	1.81	2.19	1.92	1.88	1.68	1.70
	Hispanics	KR20	0.87	0.83	0.91	0.81	0.80	0.66	0.67	0.69	0.74	0.77	0.78	0.69
		KR20_SEM	3.09	2.88	3.20	2.53	2.56	1.90	1.79	2.18	1.87	1.88	1.65	1.71
		Str_Alpha	0.88	0.83	0.91	0.81	0.81	0.66	0.67	0.70	0.74	0.77	0.78	0.69
		Str_SEM	3.03	2.87	3.19	2.52	2.53	1.90	1.78	2.17	1.87	1.88	1.65	1.71
	Asians	KR20	0.89	0.87	0.93	0.84	0.84	0.71	0.74	0.77	0.78	0.83	0.80	0.79
		KR20_SEM	2.93	2.74	2.96	2.42	2.41	1.82	1.69	2.10	1.75	1.70	1.51	1.62
		Str_Alpha	0.90	0.87	0.94	0.85	0.85	0.71	0.75	0.78	0.78	0.83	0.80	0.79
		Str_SEM	2.87	2.73	2.95	2.40	2.37	1.82	1.68	2.09	1.75	1.70	1.51	1.62
	Hawaiians	KR20	0.87	0.82	0.91	0.81	0.81	0.67	0.66	0.68	0.73	0.77	0.77	0.72
		KR20_SEM	3.10	2.91	3.20	2.54	2.56	1.91	1.81	2.20	1.90	1.88	1.66	1.71
		Str_Alpha	0.87	0.82	0.91	0.81	0.82	0.67	0.66	0.69	0.73	0.77	0.77	0.72
		Str_SEM	3.06	2.90	3.19	2.53	2.54	1.91	1.80	2.18	1.90	1.87	1.66	1.71
	American Indians/Alaska Natives	KR20	0.87	0.84	0.91	0.80	0.81	0.66	0.68	0.71	0.75	0.78	0.78	0.70
		KR20_SEM	3.07	2.88	3.19	2.52	2.54	1.90	1.78	2.19	1.87	1.87	1.63	1.72
		Str_Alpha	0.88	0.84	0.91	0.81	0.81	0.66	0.69	0.71	0.75	0.78	0.78	0.70
		Str_SEM	3.01	2.87	3.18	2.51	2.52	1.90	1.77	2.18	1.87	1.87	1.63	1.72
	Two or more races	KR20	0.88	0.85	0.92	0.82	0.83	0.68	0.69	0.73	0.75	0.80	0.78	0.74
		KR20_SEM	2.92	2.73	3.11	2.43	2.43	1.83	1.69	2.10	1.74	1.83	1.56	1.69
		Str_Alpha	0.89	0.85	0.92	0.83	0.84	0.68	0.70	0.74	0.75	0.80	0.78	0.74
		Str_SEM	2.86	2.71	3.11	2.41	2.40	1.82	1.68	2.08	1.73	1.83	1.56	1.69

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Gender	Males	KR20	0.89	0.86	0.93	0.84	0.85	0.69	0.73	0.75	0.77	0.82	0.79	0.77
		KR20_SEM	2.94	2.78	3.07	2.43	2.43	1.84	1.70	2.12	1.79	1.81	1.53	1.67
		Str_Alpha	0.90	0.86	0.93	0.84	0.85	0.69	0.74	0.76	0.77	0.82	0.79	0.77
		Str_SEM	2.88	2.76	3.07	2.41	2.40	1.84	1.68	2.10	1.78	1.81	1.53	1.67
	Females	KR20	0.88	0.85	0.92	0.83	0.82	0.69	0.70	0.73	0.77	0.78	0.79	0.72
		KR20_SEM	3.00	2.77	3.16	2.48	2.49	1.86	1.74	2.12	1.77	1.85	1.61	1.71
		Str_Alpha	0.89	0.85	0.92	0.83	0.83	0.69	0.70	0.74	0.77	0.78	0.79	0.72
		Str_SEM	2.94	2.76	3.16	2.46	2.46	1.85	1.73	2.11	1.77	1.85	1.61	1.71
Grade Level	11th	KR20	0.89	0.85	0.92	0.83	0.83	0.69	0.71	0.74	0.77	0.81	0.79	0.74
		KR20_SEM	2.97	2.77	3.12	2.46	2.47	1.85	1.72	2.12	1.77	1.83	1.57	1.70
		Str_Alpha	0.89	0.86	0.92	0.83	0.84	0.69	0.71	0.74	0.77	0.81	0.79	0.74
		Str_SEM	2.91	2.76	3.12	2.44	2.43	1.85	1.71	2.11	1.77	1.83	1.57	1.69
	12th	KR20	0.90	0.87	0.93	0.85	0.84	0.72	0.74	0.77	0.79	0.81	0.82	0.75
		KR20_SEM	3.02	2.82	3.15	2.49	2.52	1.88	1.75	2.15	1.82	1.86	1.61	1.69
		Str_Alpha	0.90	0.88	0.93	0.85	0.85	0.72	0.75	0.77	0.80	0.81	0.82	0.75
		Str_SEM	2.97	2.80	3.15	2.47	2.48	1.87	1.74	2.13	1.82	1.86	1.61	1.69

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Table A-6.7.4: Raw Score Reliability Estimates by Subgroup and Score Tier for PSAT/NMSQT and PSAT 10 Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Race/ Ethnicity	Whites	KR20	0.86	0.88	0.89	0.81	0.83	0.73	0.76	0.81	0.74	0.73	0.70	0.72
		KR20_SEM	2.93	2.80	2.88	2.39	2.43	1.84	1.69	2.06	1.88	1.76	1.58	1.53
		Str_Alpha	0.87	0.88	0.89	0.81	0.83	0.74	0.76	0.82	0.75	0.73	0.70	0.72
		Str_SEM	2.90	2.79	2.88	2.38	2.41	1.84	1.69	2.06	1.88	1.76	1.58	1.53
	Blacks	KR20	0.81	0.83	0.77	0.75	0.75	0.64	0.73	0.75	0.67	0.53	0.56	0.53
		KR20_SEM	3.07	2.99	2.89	2.52	2.53	1.95	1.86	2.22	2.00	1.72	1.66	1.49
		Str_Alpha	0.82	0.84	0.77	0.75	0.75	0.65	0.73	0.75	0.68	0.53	0.56	0.53
		Str_SEM	3.04	2.98	2.88	2.51	2.52	1.95	1.85	2.21	2.00	1.72	1.66	1.50
	Hispanics	KR20	0.83	0.85	0.82	0.78	0.78	0.68	0.74	0.77	0.70	0.61	0.61	0.60
		KR20_SEM	3.06	2.96	2.90	2.50	2.52	1.93	1.85	2.20	1.99	1.74	1.64	1.51
		Str_Alpha	0.83	0.85	0.82	0.78	0.78	0.68	0.74	0.77	0.70	0.61	0.61	0.60
		Str_SEM	3.03	2.95	2.89	2.49	2.51	1.93	1.84	2.19	1.98	1.74	1.64	1.51
	Asians	KR20	0.89	0.90	0.94	0.85	0.86	0.78	0.80	0.85	0.79	0.84	0.79	0.84
		KR20_SEM	2.92	2.72	2.70	2.35	2.38	1.81	1.71	2.03	1.82	1.60	1.54	1.47
		Str_Alpha	0.89	0.90	0.94	0.85	0.87	0.78	0.80	0.85	0.79	0.84	0.79	0.84
		Str_SEM	2.88	2.71	2.69	2.33	2.36	1.80	1.70	2.02	1.81	1.60	1.54	1.47
	Hawaiians	KR20	0.83	0.86	0.86	0.79	0.79	0.68	0.75	0.78	0.72	0.68	0.66	0.67
		KR20_SEM	3.05	2.95	2.90	2.49	2.52	1.94	1.82	2.19	1.98	1.74	1.64	1.52
		Str_Alpha	0.84	0.86	0.86	0.80	0.80	0.68	0.75	0.78	0.72	0.68	0.66	0.67
		Str_SEM	3.03	2.94	2.90	2.48	2.51	1.93	1.82	2.18	1.98	1.74	1.64	1.52
	American Indians/Alaska Natives	KR20	0.83	0.86	0.82	0.78	0.79	0.69	0.76	0.79	0.70	0.63	0.64	0.58
		KR20_SEM	3.06	2.98	2.90	2.50	2.52	1.93	1.84	2.19	2.01	1.73	1.65	1.52
		Str_Alpha	0.84	0.86	0.82	0.78	0.79	0.69	0.76	0.79	0.70	0.63	0.64	0.58
		Str_SEM	3.03	2.96	2.90	2.49	2.51	1.93	1.83	2.19	2.01	1.73	1.65	1.52
	Two or more races	KR20	0.87	0.88	0.90	0.82	0.84	0.74	0.77	0.82	0.75	0.76	0.72	0.75
		KR20_SEM	2.96	2.84	2.88	2.42	2.45	1.87	1.73	2.10	1.91	1.74	1.60	1.52
		Str_Alpha	0.87	0.88	0.90	0.83	0.84	0.74	0.77	0.82	0.75	0.76	0.72	0.75
		Str_SEM	2.93	2.83	2.88	2.40	2.44	1.86	1.72	2.09	1.91	1.74	1.60	1.52

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Gender	Males	KR20	0.87	0.89	0.91	0.84	0.85	0.75	0.79	0.83	0.77	0.78	0.75	0.77
		KR20_SEM	3.00	2.89	2.88	2.44	2.47	1.89	1.78	2.13	1.94	1.73	1.60	1.53
		Str_Alpha	0.88	0.89	0.91	0.84	0.85	0.75	0.80	0.83	0.77	0.78	0.75	0.76
		Str_SEM	2.97	2.87	2.88	2.42	2.45	1.89	1.77	2.12	1.93	1.73	1.60	1.54
	Females	KR20	0.87	0.88	0.89	0.82	0.83	0.74	0.77	0.82	0.75	0.73	0.69	0.74
		KR20_SEM	2.98	2.84	2.88	2.43	2.46	1.87	1.75	2.10	1.91	1.75	1.61	1.50
		Str_Alpha	0.87	0.88	0.89	0.82	0.84	0.74	0.78	0.82	0.75	0.73	0.69	0.74
		Str_SEM	2.95	2.83	2.87	2.42	2.45	1.86	1.74	2.10	1.91	1.75	1.61	1.50
Grade Level	10th	KR20	0.86	0.88	0.87	0.81	0.82	0.72	0.77	0.81	0.74	0.71	0.68	0.68
		KR20_SEM	3.03	2.92	2.90	2.47	2.50	1.91	1.80	2.16	1.96	1.74	1.63	1.52
		Str_Alpha	0.86	0.88	0.87	0.81	0.82	0.72	0.77	0.81	0.74	0.71	0.68	0.68
		Str_SEM	3.00	2.91	2.89	2.46	2.48	1.91	1.79	2.15	1.95	1.75	1.63	1.52
	11th	KR20	0.88	0.89	0.92	0.83	0.85	0.76	0.79	0.83	0.77	0.78	0.74	0.78
		KR20_SEM	2.95	2.81	2.86	2.40	2.44	1.85	1.72	2.08	1.89	1.73	1.59	1.52
		Str_Alpha	0.88	0.89	0.92	0.83	0.85	0.76	0.79	0.84	0.77	0.78	0.74	0.78
		Str_SEM	2.92	2.80	2.85	2.38	2.42	1.84	1.72	2.07	1.88	1.73	1.59	1.52

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Table A-6.7.5: Raw Score Reliability Estimates by Subgroup and Score Tier for PSAT/NMSQT and PSAT 10 Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Race/ Ethnicity	Whites	KR20	0.85	0.86	0.90	0.81	0.84	0.70	0.77	0.81	0.70	0.76	0.78	0.68
		KR20_SEM	3.02	2.90	2.98	2.45	2.51	1.88	1.78	2.14	1.95	1.78	1.70	1.54
		Str_Alpha	0.86	0.86	0.90	0.82	0.84	0.71	0.77	0.81	0.70	0.76	0.78	0.68
		Str_SEM	2.97	2.89	2.98	2.43	2.49	1.87	1.77	2.13	1.95	1.79	1.70	1.54
	Blacks	KR20	0.78	0.80	0.76	0.70	0.74	0.59	0.71	0.73	0.58	0.61	0.62	0.40
		KR20_SEM	3.10	2.99	2.91	2.48	2.60	1.91	1.84	2.20	2.01	1.72	1.71	1.51
		Str_Alpha	0.79	0.80	0.76	0.70	0.74	0.59	0.71	0.73	0.58	0.61	0.62	0.41
		Str_SEM	3.07	2.98	2.91	2.47	2.58	1.90	1.83	2.20	2.00	1.72	1.71	1.50
	Hispanics	KR20	0.81	0.82	0.84	0.76	0.79	0.64	0.73	0.76	0.62	0.68	0.71	0.52
		KR20_SEM	3.09	2.97	2.97	2.48	2.59	1.91	1.83	2.19	1.99	1.77	1.72	1.52
		Str_Alpha	0.82	0.82	0.84	0.76	0.79	0.64	0.73	0.76	0.62	0.68	0.71	0.52
		Str_SEM	3.05	2.96	2.96	2.47	2.58	1.90	1.81	2.19	1.99	1.77	1.72	1.52
	Asians	KR20	0.89	0.90	0.95	0.87	0.87	0.76	0.82	0.85	0.77	0.83	0.83	0.84
		KR20_SEM	2.94	2.82	2.71	2.36	2.40	1.85	1.74	2.06	1.92	1.61	1.57	1.47
		Str_Alpha	0.89	0.90	0.95	0.87	0.88	0.76	0.82	0.85	0.77	0.83	0.83	0.84
		Str_SEM	2.90	2.81	2.70	2.32	2.37	1.84	1.72	2.06	1.91	1.61	1.57	1.47
	Hawaiians	KR20	0.83	0.84	0.89	0.81	0.81	0.68	0.74	0.78	0.65	0.71	0.79	0.64
		KR20_SEM	3.07	2.96	2.94	2.47	2.58	1.90	1.83	2.19	1.98	1.78	1.71	1.50
		Str_Alpha	0.84	0.84	0.89	0.81	0.81	0.69	0.75	0.78	0.65	0.71	0.79	0.64
		Str_SEM	3.03	2.97	2.93	2.46	2.56	1.88	1.82	2.21	1.99	1.79	1.71	1.49
	American Indians/Alaska Natives	KR20	0.80	0.81	0.83	0.73	0.77	0.60	0.72	0.74	0.59	0.65	0.70	0.49
		KR20_SEM	3.11	2.98	2.94	2.49	2.59	1.91	1.84	2.20	2.01	1.75	1.72	1.51
		Str_Alpha	0.80	0.81	0.83	0.74	0.78	0.60	0.72	0.74	0.59	0.65	0.70	0.49
		Str_SEM	3.07	2.98	2.94	2.48	2.58	1.90	1.83	2.20	2.01	1.76	1.72	1.51
	Two or more races	KR20	0.86	0.86	0.90	0.82	0.84	0.71	0.77	0.81	0.70	0.77	0.79	0.68
		KR20_SEM	3.04	2.92	2.97	2.45	2.54	1.89	1.78	2.15	1.97	1.76	1.71	1.54
		Str_Alpha	0.86	0.86	0.90	0.82	0.84	0.71	0.78	0.81	0.70	0.77	0.79	0.68
		Str_SEM	2.99	2.92	2.96	2.43	2.52	1.88	1.77	2.15	1.97	1.76	1.71	1.54

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Gender	Males	KR20	0.86	0.87	0.91	0.83	0.85	0.72	0.78	0.82	0.69	0.80	0.81	0.73
		KR20_SEM	3.05	2.94	2.95	2.46	2.53	1.89	1.81	2.16	1.98	1.75	1.69	1.53
		Str_Alpha	0.87	0.87	0.91	0.84	0.86	0.72	0.79	0.82	0.69	0.80	0.81	0.73
		Str_SEM	3.01	2.93	2.95	2.44	2.51	1.88	1.80	2.16	1.97	1.75	1.69	1.53
	Females	KR20	0.85	0.87	0.89	0.81	0.83	0.70	0.77	0.81	0.71	0.74	0.77	0.68
		KR20_SEM	3.04	2.91	2.97	2.45	2.54	1.89	1.79	2.14	1.96	1.78	1.71	1.53
		Str_Alpha	0.86	0.87	0.89	0.82	0.84	0.71	0.78	0.81	0.71	0.74	0.77	0.68
		Str_SEM	3.00	2.91	2.97	2.43	2.52	1.88	1.77	2.14	1.96	1.78	1.71	1.53
Grade Level	10th	KR20	0.86	0.87	0.90	0.82	0.84	0.71	0.78	0.82	0.70	0.77	0.79	0.70
		KR20_SEM	3.05	2.92	2.96	2.46	2.54	1.89	1.80	2.15	1.97	1.77	1.70	1.53
		Str_Alpha	0.86	0.87	0.90	0.83	0.85	0.72	0.78	0.82	0.70	0.77	0.79	0.70
		Str_SEM	3.00	2.92	2.96	2.44	2.52	1.88	1.79	2.15	1.97	1.77	1.70	1.53
	11th	KR20	0.84	0.87	0.94	0.82	0.82	0.68	0.74	0.80	0.71	0.81	0.82	0.83
		KR20_SEM	3.10	2.96	2.88	2.49	2.58	1.91	1.88	2.19	2.00	1.74	1.68	1.50
		Str_Alpha	0.85	0.87	0.94	0.82	0.82	0.69	0.74	0.80	0.71	0.81	0.82	0.83
		Str_SEM	3.06	2.96	2.88	2.45	2.56	1.90	1.87	2.19	2.00	1.74	1.68	1.50

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Table A-6.7.6: Raw Score Reliability Estimates by Subgroup and Score Tier for PSAT 8/9 Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Race/ Ethnicity	Whites	KR20	0.86	0.84	0.87	0.80	0.82	0.71	0.76	0.79	0.61	0.72	0.72
		KR20_SEM	2.67	2.71	2.60	2.24	2.34	1.80	1.65	2.09	1.72	1.71	1.65
		Str_Alpha	0.86	0.84	0.87	0.81	0.82	0.72	0.77	0.79	0.61	0.72	0.72
		Str_SEM	2.62	2.70	2.59	2.21	2.32	1.79	1.65	2.08	1.72	1.71	1.65
	Blacks	KR20	0.84	0.81	0.79	0.76	0.77	0.67	0.75	0.76	0.56	0.58	0.62
		KR20_SEM	2.86	2.88	2.60	2.34	2.45	1.90	1.87	2.21	1.84	1.68	1.70
		Str_Alpha	0.84	0.81	0.79	0.76	0.77	0.67	0.75	0.76	0.56	0.58	0.62
		Str_SEM	2.81	2.87	2.60	2.32	2.44	1.89	1.86	2.20	1.83	1.69	1.70
	Hispanics	KR20	0.85	0.83	0.80	0.77	0.79	0.70	0.77	0.78	0.56	0.61	0.65
		KR20_SEM	2.85	2.87	2.60	2.34	2.45	1.88	1.86	2.20	1.83	1.69	1.70
		Str_Alpha	0.86	0.83	0.80	0.78	0.80	0.70	0.78	0.79	0.56	0.61	0.65
		Str_SEM	2.80	2.86	2.60	2.32	2.43	1.88	1.85	2.19	1.83	1.70	1.70
	Asians	KR20	0.88	0.86	0.92	0.84	0.84	0.75	0.80	0.82	0.65	0.81	0.80
		KR20_SEM	2.64	2.67	2.47	2.21	2.29	1.74	1.65	2.07	1.69	1.65	1.59
		Str_Alpha	0.88	0.86	0.92	0.85	0.84	0.75	0.80	0.82	0.65	0.81	0.80
		Str_SEM	2.59	2.67	2.46	2.17	2.27	1.74	1.64	2.06	1.69	1.65	1.59
	Hawaiians	KR20	0.85	0.81	0.82	0.78	0.79	0.67	0.78	0.77	0.53	0.60	0.68
		KR20_SEM	2.84	2.88	2.60	2.33	2.44	1.88	1.86	2.21	1.83	1.70	1.67
		Str_Alpha	0.85	0.81	0.82	0.78	0.79	0.67	0.78	0.77	0.54	0.60	0.68
		Str_SEM	2.81	2.86	2.60	2.30	2.42	1.87	1.84	2.20	1.83	1.71	1.67
	American Indians/Alaska Natives	KR20	0.85	0.81	0.79	0.77	0.78	0.67	0.77	0.76	0.55	0.58	0.64
		KR20_SEM	2.86	2.89	2.60	2.34	2.45	1.89	1.87	2.23	1.84	1.68	1.71
		Str_Alpha	0.85	0.82	0.79	0.77	0.78	0.67	0.77	0.76	0.55	0.58	0.64
		Str_SEM	2.82	2.88	2.60	2.32	2.44	1.89	1.86	2.22	1.84	1.68	1.71
	Two or more races	KR20	0.87	0.85	0.88	0.82	0.84	0.74	0.79	0.81	0.64	0.75	0.74
		KR20_SEM	2.72	2.76	2.59	2.26	2.37	1.82	1.71	2.12	1.76	1.70	1.67
		Str_Alpha	0.88	0.85	0.88	0.83	0.84	0.75	0.79	0.81	0.64	0.75	0.74
		Str_SEM	2.67	2.75	2.59	2.23	2.35	1.81	1.70	2.11	1.75	1.70	1.67

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Gender	Males	KR20	0.88	0.86	0.89	0.83	0.84	0.73	0.81	0.82	0.64	0.75	0.76
		KR20_SEM	2.78	2.82	2.59	2.30	2.39	1.85	1.77	2.16	1.80	1.70	1.67
		Str_Alpha	0.88	0.86	0.89	0.84	0.84	0.74	0.81	0.82	0.64	0.75	0.76
		Str_SEM	2.73	2.81	2.59	2.27	2.38	1.85	1.77	2.15	1.80	1.70	1.67
	Females	KR20	0.87	0.85	0.87	0.82	0.83	0.74	0.79	0.81	0.61	0.71	0.72
		KR20_SEM	2.75	2.78	2.60	2.28	2.39	1.83	1.75	2.14	1.77	1.70	1.67
		Str_Alpha	0.88	0.85	0.87	0.83	0.83	0.74	0.80	0.81	0.61	0.71	0.72
		Str_SEM	2.71	2.78	2.59	2.26	2.38	1.82	1.75	2.13	1.77	1.70	1.67
Grade Level	8th	KR20	0.86	0.84	0.84	0.81	0.82	0.72	0.79	0.80	0.59	0.66	0.71
		KR20_SEM	2.81	2.85	2.60	2.32	2.42	1.86	1.82	2.19	1.82	1.69	1.69
		Str_Alpha	0.87	0.84	0.84	0.81	0.82	0.72	0.79	0.80	0.59	0.66	0.71
		Str_SEM	2.76	2.84	2.59	2.30	2.41	1.86	1.81	2.18	1.82	1.69	1.69
	9th	KR20	0.88	0.86	0.89	0.83	0.84	0.74	0.81	0.82	0.64	0.75	0.75
		KR20_SEM	2.75	2.77	2.59	2.28	2.38	1.83	1.74	2.13	1.77	1.70	1.66
		Str_Alpha	0.88	0.86	0.89	0.84	0.84	0.75	0.81	0.82	0.64	0.75	0.75
		Str_SEM	2.70	2.76	2.59	2.25	2.36	1.82	1.73	2.12	1.76	1.70	1.66

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Table A-6.7.7: Raw Score Reliability Estimates by Subgroup and Score Tier for PSAT 8/9 Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Race/ Ethnicity	Whites	KR20	0.84	0.85	0.85	0.79	0.74	0.73	0.72	0.77	0.71	0.72	0.71
		KR20_SEM	2.79	2.74	2.55	2.28	2.43	1.86	1.80	2.17	1.66	1.61	1.66
		Str_Alpha	0.84	0.85	0.85	0.79	0.75	0.73	0.72	0.77	0.72	0.72	0.71
		Str_SEM	2.76	2.72	2.54	2.26	2.42	1.85	1.79	2.15	1.66	1.60	1.66
	Blacks	KR20	0.82	0.80	0.74	0.75	0.64	0.64	0.70	0.69	0.66	0.57	0.55
		KR20_SEM	2.90	2.85	2.58	2.33	2.47	1.91	1.89	2.21	1.79	1.60	1.74
		Str_Alpha	0.82	0.80	0.74	0.75	0.64	0.65	0.70	0.69	0.67	0.57	0.55
		Str_SEM	2.86	2.84	2.58	2.31	2.45	1.90	1.88	2.20	1.78	1.60	1.74
	Hispanics	KR20	0.84	0.83	0.80	0.77	0.71	0.70	0.72	0.74	0.68	0.65	0.63
		KR20_SEM	2.86	2.82	2.58	2.32	2.46	1.89	1.87	2.20	1.76	1.61	1.72
		Str_Alpha	0.84	0.83	0.80	0.77	0.71	0.70	0.72	0.74	0.69	0.65	0.63
		Str_SEM	2.83	2.80	2.57	2.29	2.44	1.89	1.86	2.18	1.75	1.60	1.72
	Asians	KR20	0.88	0.88	0.92	0.85	0.80	0.78	0.76	0.81	0.74	0.83	0.81
		KR20_SEM	2.67	2.63	2.37	2.20	2.34	1.79	1.74	2.11	1.55	1.53	1.53
		Str_Alpha	0.88	0.88	0.92	0.85	0.80	0.78	0.77	0.82	0.74	0.84	0.81
		Str_SEM	2.64	2.62	2.36	2.17	2.32	1.78	1.74	2.09	1.55	1.52	1.53
	Two or more races	KR20	0.85	0.86	0.86	0.80	0.75	0.74	0.73	0.78	0.73	0.73	0.72
		KR20_SEM	2.82	2.77	2.55	2.28	2.44	1.87	1.83	2.18	1.70	1.61	1.68
		Str_Alpha	0.85	0.86	0.86	0.81	0.75	0.75	0.73	0.78	0.73	0.73	0.72
		Str_SEM	2.78	2.76	2.55	2.26	2.43	1.86	1.82	2.16	1.70	1.60	1.68
	American Indians/Alaska Natives	KR20	0.81	0.80	0.76	0.72	0.66	0.64	0.70	0.68	0.69	0.57	0.62
		KR20_SEM	2.91	2.84	2.59	2.35	2.47	1.90	1.89	2.20	1.79	1.62	1.72
		Str_Alpha	0.81	0.80	0.76	0.72	0.67	0.64	0.70	0.68	0.69	0.57	0.62
		Str_SEM	2.88	2.84	2.59	2.32	2.46	1.89	1.88	2.19	1.79	1.62	1.72

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			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Gender	Males	KR20	0.86	0.86	0.88	0.81	0.77	0.74	0.75	0.78	0.74	0.76	0.74
		KR20_SEM	2.83	2.78	2.55	2.31	2.44	1.87	1.83	2.18	1.72	1.61	1.67
		Str_Alpha	0.86	0.86	0.88	0.82	0.77	0.74	0.75	0.78	0.74	0.76	0.74
		Str_SEM	2.80	2.77	2.54	2.28	2.42	1.86	1.83	2.16	1.72	1.60	1.67
	Females	KR20	0.84	0.85	0.85	0.79	0.74	0.74	0.73	0.77	0.71	0.71	0.69
		KR20_SEM	2.80	2.74	2.56	2.27	2.44	1.86	1.81	2.17	1.66	1.61	1.68
		Str_Alpha	0.85	0.85	0.85	0.79	0.74	0.74	0.73	0.78	0.71	0.71	0.69
		Str_SEM	2.76	2.73	2.55	2.25	2.42	1.86	1.80	2.16	1.66	1.60	1.68
Grade Level	8th	KR20	0.84	0.85	0.86	0.79	0.75	0.72	0.73	0.77	0.72	0.74	0.71
		KR20_SEM	2.83	2.78	2.54	2.29	2.44	1.88	1.84	2.18	1.71	1.60	1.67
		Str_Alpha	0.85	0.85	0.86	0.80	0.75	0.72	0.73	0.77	0.72	0.74	0.71
		Str_SEM	2.80	2.76	2.54	2.27	2.42	1.87	1.83	2.16	1.71	1.59	1.67
	9th	KR20	0.85	0.86	0.86	0.80	0.76	0.75	0.74	0.78	0.73	0.74	0.72
		KR20_SEM	2.82	2.76	2.56	2.29	2.44	1.87	1.82	2.18	1.69	1.61	1.67
		Str_Alpha	0.86	0.86	0.86	0.81	0.76	0.75	0.75	0.78	0.73	0.74	0.72
		Str_SEM	2.78	2.75	2.55	2.27	2.42	1.86	1.81	2.16	1.69	1.60	1.67

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Table A-6.8.1: Scale Score Reliability Estimates by Subgroup and Score Tier for SAT Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.87	0.86	0.87	0.80	0.82	0.73	0.63	0.80	0.74	0.67	0.60	0.68	0.93	0.87	0.94
		RMS(CSEM)	1.55	1.66	1.54	1.96	1.85	1.26	1.32	1.06	1.33	1.28	1.64	1.52	22.75	30.84	38.32
	Blacks	Reliability	0.87	0.85	0.88	0.79	0.81	0.63	0.72	0.76	0.72	0.80	0.63	0.52	0.92	0.88	0.94
		RMS(CSEM)	1.66	1.83	1.47	2.22	1.91	1.33	1.45	1.23	1.40	1.11	1.72	1.60	24.71	29.33	38.35
	Hispanics	Reliability	0.90	0.89	0.91	0.84	0.86	0.76	0.76	0.83	0.79	0.81	0.71	0.68	0.94	0.91	0.96
		RMS(CSEM)	1.62	1.75	1.53	2.08	1.88	1.30	1.39	1.14	1.36	1.19	1.68	1.57	23.83	30.67	38.84
	Asians	Reliability	0.88	0.88	0.92	0.82	0.84	0.76	0.71	0.83	0.77	0.72	0.73	0.76	0.94	0.92	0.96
		RMS(CSEM)	1.58	1.65	1.49	1.96	1.84	1.24	1.33	1.04	1.31	1.23	1.56	1.42	22.86	29.73	37.51
	Two or more races	Reliability	0.88	0.88	0.89	0.80	0.81	0.75	0.70	0.82	0.79	0.67	0.68	0.71	0.93	0.89	0.95
		RMS(CSEM)	1.62	1.72	1.64	2.00	2.08	1.26	1.33	1.09	1.35	1.41	1.66	1.52	23.66	32.73	40.39
Gender	Males	Reliability	0.89	0.89	0.90	0.84	0.85	0.75	0.72	0.83	0.77	0.75	0.67	0.74	0.94	0.90	0.95
		RMS(CSEM)	1.60	1.72	1.57	2.02	1.91	1.28	1.38	1.10	1.36	1.28	1.67	1.51	23.48	31.33	39.16
	Females	Reliability	0.88	0.87	0.89	0.82	0.82	0.74	0.70	0.81	0.76	0.74	0.66	0.67	0.93	0.89	0.95
		RMS(CSEM)	1.58	1.69	1.56	2.01	1.90	1.28	1.34	1.08	1.35	1.27	1.67	1.56	23.16	31.19	38.85
Grade Level	Gr 11	Reliability	0.87	0.87	0.89	0.80	0.82	0.74	0.66	0.81	0.75	0.69	0.64	0.70	0.93	0.89	0.95
		RMS(CSEM)	1.57	1.67	1.54	1.97	1.85	1.26	1.32	1.06	1.33	1.27	1.63	1.51	22.89	30.74	38.32
	Gr 12	Reliability	0.86	0.85	0.87	0.80	0.80	0.65	0.72	0.77	0.72	0.80	0.65	0.57	0.92	0.87	0.94
		RMS(CSEM)	1.65	1.84	1.60	2.20	2.00	1.33	1.46	1.22	1.42	1.14	1.72	1.62	24.75	31.99	40.45

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Table A-6.8.2: Scale Score Reliability Estimates by Subgroup and Score Tier for SAT Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.86	0.82	0.90	0.80	0.82	0.68	0.63	0.72	0.69	0.74	0.73	0.74	0.91	0.90	0.95
		RMS(CSEM)	1.60	1.88	1.33	1.90	1.79	1.27	1.37	1.23	1.51	1.13	1.28	1.34	24.66	26.65	36.31
	Blacks	Reliability	0.84	0.81	0.88	0.77	0.78	0.66	0.62	0.68	0.67	0.68	0.72	0.68	0.90	0.88	0.94
		RMS(CSEM)	1.79	2.05	1.48	2.21	2.02	1.29	1.52	1.35	1.55	1.27	1.45	1.43	27.24	29.64	40.26
	Hispanics	Reliability	0.85	0.81	0.90	0.78	0.81	0.68	0.63	0.70	0.68	0.71	0.75	0.72	0.91	0.90	0.94
		RMS(CSEM)	1.75	2.01	1.42	2.12	1.97	1.30	1.49	1.32	1.54	1.23	1.38	1.41	26.60	28.41	38.92
	Asians	Reliability	0.88	0.85	0.93	0.83	0.84	0.73	0.68	0.75	0.73	0.80	0.79	0.81	0.92	0.93	0.96
		RMS(CSEM)	1.65	1.92	1.30	1.96	1.83	1.29	1.42	1.26	1.51	1.10	1.28	1.26	25.32	26.08	36.35
	Hawaiians	Reliability	0.85	0.80	0.90	0.77	0.79	0.69	0.64	0.69	0.66	0.75	0.73	0.73	0.90	0.90	0.94
		RMS(CSEM)	1.70	2.02	1.40	2.12	1.91	1.30	1.46	1.32	1.56	1.22	1.36	1.39	26.45	28.07	38.57
	American Indians/ Alaska Natives	Reliability	0.87	0.84	0.91	0.80	0.83	0.71	0.67	0.74	0.72	0.74	0.75	0.75	0.92	0.91	0.95
		RMS(CSEM)	1.74	1.98	1.41	2.11	1.95	1.30	1.49	1.30	1.52	1.22	1.40	1.39	26.33	28.30	38.65
	Two or more races	Reliability	0.87	0.84	0.92	0.81	0.84	0.70	0.67	0.74	0.72	0.75	0.76	0.76	0.92	0.92	0.95
		RMS(CSEM)	1.64	1.92	1.36	1.97	1.85	1.30	1.40	1.26	1.52	1.16	1.31	1.36	25.30	27.15	37.11
Gender	Males	Reliability	0.88	0.85	0.92	0.82	0.84	0.73	0.68	0.76	0.72	0.78	0.78	0.78	0.92	0.92	0.96
		RMS(CSEM)	1.67	1.96	1.37	2.02	1.88	1.30	1.43	1.28	1.54	1.17	1.33	1.36	25.78	27.46	37.67
	Females	Reliability	0.87	0.83	0.91	0.80	0.83	0.70	0.65	0.73	0.71	0.73	0.75	0.74	0.92	0.91	0.95
		RMS(CSEM)	1.68	1.94	1.41	2.03	1.91	1.29	1.44	1.28	1.52	1.20	1.36	1.39	25.73	28.26	38.22
Grade Level	11th	Reliability	0.87	0.84	0.92	0.81	0.83	0.71	0.67	0.74	0.71	0.76	0.76	0.76	0.92	0.92	0.95
		RMS(CSEM)	1.67	1.94	1.38	2.01	1.88	1.30	1.43	1.27	1.53	1.18	1.33	1.37	25.64	27.62	37.68
	12th	Reliability	0.85	0.83	0.89	0.78	0.80	0.70	0.65	0.71	0.70	0.71	0.75	0.68	0.91	0.89	0.94
		RMS(CSEM)	1.76	2.04	1.49	2.21	2.00	1.28	1.51	1.35	1.54	1.27	1.43	1.44	26.94	29.76	40.14

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Table A-6.8.3: Scale Score Reliability Estimates by Subgroup and Score Tier for SAT Form 3

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.87	0.84	0.91	0.81	0.82	0.66	0.68	0.72	0.76	0.76	0.73	0.70	0.92	0.91	0.95
		RMS(CSEM)	1.54	1.81	1.33	1.88	1.84	1.31	1.43	1.30	1.33	1.13	1.29	1.42	23.77	26.64	35.70
	Blacks	Reliability	0.87	0.83	0.89	0.79	0.79	0.66	0.68	0.70	0.74	0.70	0.76	0.63	0.91	0.89	0.94
		RMS(CSEM)	1.68	1.95	1.44	2.10	2.07	1.33	1.63	1.44	1.38	1.24	1.33	1.50	25.74	28.84	38.66
	Hispanics	Reliability	0.87	0.83	0.90	0.80	0.80	0.66	0.67	0.69	0.74	0.73	0.77	0.66	0.92	0.90	0.95
		RMS(CSEM)	1.65	1.93	1.40	2.06	2.02	1.33	1.61	1.41	1.37	1.20	1.32	1.46	25.38	28.07	37.84
	Asians	Reliability	0.89	0.87	0.93	0.84	0.85	0.71	0.74	0.77	0.79	0.82	0.79	0.77	0.93	0.93	0.96
		RMS(CSEM)	1.58	1.85	1.34	1.94	1.87	1.31	1.47	1.33	1.34	1.09	1.31	1.37	24.28	26.85	36.20
	Hawaiians	Reliability	0.86	0.82	0.90	0.80	0.81	0.66	0.65	0.69	0.73	0.74	0.76	0.69	0.91	0.90	0.95
		RMS(CSEM)	1.64	1.90	1.46	2.06	1.96	1.33	1.60	1.40	1.36	1.20	1.38	1.48	25.15	29.25	38.58
	American Indians/ Alaska Natives	Reliability	0.87	0.84	0.90	0.80	0.81	0.66	0.69	0.71	0.76	0.74	0.77	0.66	0.92	0.90	0.95
		RMS(CSEM)	1.63	1.94	1.41	2.06	1.99	1.32	1.58	1.42	1.37	1.20	1.32	1.50	25.29	28.30	37.95
	Two or more races	Reliability	0.88	0.85	0.92	0.82	0.84	0.68	0.69	0.73	0.77	0.78	0.76	0.72	0.92	0.92	0.95
		RMS(CSEM)	1.58	1.84	1.36	1.94	1.91	1.32	1.48	1.33	1.34	1.15	1.31	1.43	24.29	27.29	36.53
Gender	Males	Reliability	0.89	0.86	0.92	0.83	0.85	0.70	0.73	0.75	0.78	0.80	0.77	0.74	0.93	0.92	0.96
		RMS(CSEM)	1.61	1.88	1.39	1.99	1.93	1.33	1.50	1.36	1.36	1.16	1.35	1.43	24.77	27.76	37.20
	Females	Reliability	0.88	0.85	0.91	0.82	0.83	0.69	0.70	0.73	0.78	0.76	0.78	0.69	0.93	0.91	0.95
		RMS(CSEM)	1.61	1.87	1.40	2.00	1.96	1.33	1.53	1.36	1.35	1.17	1.33	1.47	24.70	28.04	37.37
Grade Level	11th	Reliability	0.88	0.85	0.92	0.82	0.84	0.69	0.71	0.74	0.78	0.78	0.78	0.72	0.93	0.92	0.96
		RMS(CSEM)	1.61	1.87	1.39	1.99	1.95	1.33	1.52	1.36	1.35	1.16	1.34	1.45	24.72	27.84	37.23
	12th	Reliability	0.90	0.87	0.92	0.84	0.84	0.72	0.74	0.77	0.80	0.78	0.81	0.73	0.94	0.92	0.96
		RMS(CSEM)	1.62	1.89	1.42	2.04	1.97	1.33	1.54	1.37	1.36	1.21	1.33	1.48	24.94	28.43	37.82

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Table A-6.8.4: Scale Score Reliability Estimates by Subgroup and Score Tier for PSAT/NMSQT and PSAT 10 Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.86	0.87	0.87	0.81	0.83	0.73	0.76	0.81	0.74	0.73	0.70	0.66	0.93	0.87	0.94
		RMS(CSEM)	1.80	1.75	1.61	2.08	2.01	1.27	1.32	1.05	1.26	1.58	1.31	1.56	25.08	32.23	40.84
	Blacks	Reliability	0.81	0.83	0.74	0.75	0.74	0.64	0.73	0.73	0.67	0.53	0.58	0.49	0.90	0.74	0.89
		RMS(CSEM)	1.92	1.93	1.98	2.24	2.18	1.36	1.33	1.10	1.32	1.64	1.44	1.76	27.22	39.65	48.10
	Hispanics	Reliability	0.83	0.85	0.79	0.78	0.77	0.67	0.74	0.76	0.70	0.62	0.62	0.55	0.91	0.79	0.91
		RMS(CSEM)	1.92	1.90	1.87	2.21	2.15	1.35	1.34	1.09	1.31	1.61	1.39	1.70	26.99	37.33	46.06
	Asians	Reliability	0.89	0.90	0.93	0.85	0.87	0.78	0.80	0.85	0.80	0.83	0.79	0.80	0.94	0.93	0.96
		RMS(CSEM)	1.81	1.75	1.46	2.09	2.00	1.27	1.35	1.06	1.24	1.45	1.29	1.40	25.18	29.16	38.53
	Hawaiians	Reliability	0.83	0.86	0.83	0.79	0.79	0.67	0.75	0.77	0.72	0.68	0.66	0.60	0.91	0.83	0.93
		RMS(CSEM)	1.90	1.88	1.82	2.18	2.12	1.34	1.33	1.09	1.30	1.58	1.39	1.66	26.73	36.37	45.14
	American Indians/ Alaska Natives	Reliability	0.83	0.85	0.80	0.78	0.78	0.68	0.75	0.77	0.70	0.63	0.65	0.52	0.91	0.80	0.92
		RMS(CSEM)	1.90	1.90	1.90	2.21	2.13	1.35	1.34	1.09	1.32	1.62	1.41	1.76	26.88	37.97	46.52
	Two or more races	Reliability	0.87	0.88	0.88	0.82	0.84	0.74	0.77	0.82	0.75	0.75	0.72	0.68	0.93	0.88	0.95
		RMS(CSEM)	1.84	1.81	1.63	2.11	2.06	1.29	1.33	1.06	1.28	1.54	1.32	1.57	25.77	32.63	41.58
Gender	Males	Reliability	0.88	0.89	0.89	0.84	0.84	0.75	0.79	0.83	0.77	0.77	0.75	0.69	0.94	0.89	0.95
		RMS(CSEM)	1.88	1.85	1.64	2.15	2.10	1.33	1.35	1.09	1.30	1.53	1.33	1.59	26.34	32.90	42.14
	Females	Reliability	0.87	0.88	0.87	0.82	0.83	0.74	0.77	0.82	0.75	0.73	0.69	0.67	0.93	0.87	0.94
		RMS(CSEM)	1.87	1.83	1.68	2.16	2.10	1.31	1.35	1.07	1.29	1.56	1.35	1.59	26.13	33.56	42.53
Grade Level	10th	Reliability	0.86	0.87	0.85	0.81	0.82	0.72	0.77	0.80	0.74	0.70	0.68	0.61	0.92	0.85	0.94
		RMS(CSEM)	1.89	1.87	1.76	2.20	2.12	1.33	1.35	1.09	1.30	1.58	1.37	1.66	26.59	35.25	44.16
	11th	Reliability	0.88	0.89	0.90	0.83	0.85	0.76	0.79	0.83	0.77	0.78	0.74	0.72	0.94	0.90	0.95
		RMS(CSEM)	1.85	1.81	1.59	2.14	2.08	1.30	1.36	1.07	1.28	1.52	1.32	1.53	25.91	31.75	40.99

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Table A-6.8.5: Scale Score Reliability Estimates by Subgroup and Score Tier for PSAT/NMSQT and PSAT 10 Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.86	0.86	0.88	0.81	0.84	0.7	0.77	0.8	0.69	0.75	0.76	0.66	0.92	0.88	0.94
		RMS(CSEM)	1.74	1.83	1.47	2	1.92	1.29	1.32	1.11	1.35	1.39	1.18	1.54	25.28	29.45	38.81
	Blacks	Reliability	0.78	0.79	0.71	0.69	0.71	0.58	0.7	0.71	0.57	0.58	0.58	0.39	0.88	0.71	0.88
		RMS(CSEM)	1.81	1.95	1.75	2.15	1.95	1.31	1.34	1.07	1.44	1.33	1.28	1.65	26.57	35.08	44
	Hispanics	Reliability	0.82	0.82	0.8	0.75	0.78	0.63	0.73	0.75	0.6	0.66	0.68	0.5	0.9	0.8	0.91
		RMS(CSEM)	1.8	1.91	1.62	2.06	1.93	1.3	1.33	1.07	1.4	1.34	1.22	1.6	26.27	32.33	41.66
	Asians	Reliability	0.89	0.89	0.94	0.87	0.88	0.76	0.82	0.84	0.76	0.83	0.83	0.83	0.94	0.94	0.97
		RMS(CSEM)	1.72	1.81	1.32	1.93	1.9	1.3	1.32	1.13	1.34	1.33	1.15	1.38	24.98	26.32	36.29
	Hawaiians	Reliability	0.84	0.83	0.86	0.8	0.81	0.68	0.74	0.76	0.64	0.7	0.76	0.61	0.91	0.86	0.93
		RMS(CSEM)	1.78	1.9	1.51	1.98	1.92	1.3	1.33	1.09	1.39	1.36	1.19	1.53	25.99	30.19	39.84
	American Indians/ Alaska Natives	Reliability	0.8	0.8	0.79	0.73	0.76	0.59	0.72	0.72	0.57	0.62	0.67	0.47	0.89	0.79	0.91
		RMS(CSEM)	1.81	1.94	1.65	2.11	1.93	1.31	1.36	1.07	1.44	1.38	1.25	1.62	26.56	32.97	42.34
	Two or more races	Reliability	0.86	0.86	0.88	0.82	0.84	0.71	0.77	0.8	0.69	0.77	0.76	0.65	0.92	0.88	0.94
		RMS(CSEM)	1.76	1.86	1.5	2	1.92	1.3	1.32	1.1	1.37	1.36	1.19	1.54	25.6	30.04	39.47
Gender	Males	Reliability	0.87	0.86	0.9	0.83	0.85	0.72	0.78	0.81	0.68	0.79	0.79	0.7	0.93	0.9	0.95
		RMS(CSEM)	1.78	1.89	1.5	2.03	1.94	1.31	1.35	1.1	1.39	1.37	1.19	1.52	25.93	29.94	39.6
	Females	Reliability	0.86	0.86	0.87	0.81	0.83	0.7	0.77	0.8	0.7	0.73	0.75	0.65	0.92	0.87	0.94
		RMS(CSEM)	1.78	1.86	1.51	2.01	1.94	1.31	1.33	1.11	1.37	1.37	1.2	1.53	25.73	30.16	39.64
Grade Level	10th	Reliability	0.86	0.87	0.89	0.82	0.84	0.71	0.78	0.81	0.69	0.76	0.77	0.68	0.92	0.89	0.95
		RMS(CSEM)	1.78	1.88	1.5	2.02	1.94	1.31	1.34	1.11	1.38	1.37	1.19	1.52	25.83	30.03	39.61
	11th	Reliability	0.85	0.86	0.92	0.82	0.82	0.68	0.73	0.79	0.71	0.79	0.79	0.8	0.92	0.92	0.95
		RMS(CSEM)	1.79	1.9	1.47	2.06	1.93	1.31	1.38	1.09	1.42	1.36	1.19	1.41	26.13	29.37	39.31

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Table A-6.8.6: Scale Score Reliability Estimates by Subgroup and Score Tier for PSAT 8/9 Form 1

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.86	0.83	0.85	0.81	0.81	0.71	0.77	0.78	0.63	0.71	0.72	0.91	0.85	0.93
		RMS(CSEM)	1.62	1.87	1.53	1.99	1.97	1.34	1.50	1.20	1.86	1.38	1.39	24.73	30.67	39.40
	Blacks	Reliability	0.84	0.81	0.74	0.76	0.75	0.66	0.76	0.75	0.59	0.56	0.62	0.90	0.74	0.89
		RMS(CSEM)	1.54	1.80	1.83	2.01	2.08	1.39	1.43	1.20	1.88	1.40	1.39	23.68	36.61	43.60
	Hispanics	Reliability	0.85	0.82	0.76	0.77	0.77	0.69	0.78	0.78	0.59	0.60	0.65	0.91	0.76	0.90
		RMS(CSEM)	1.54	1.80	1.80	2.00	2.08	1.37	1.42	1.20	1.87	1.40	1.36	23.67	35.93	43.03
	Asians	Reliability	0.88	0.86	0.91	0.85	0.84	0.75	0.80	0.81	0.66	0.80	0.80	0.93	0.91	0.95
		RMS(CSEM)	1.64	1.88	1.44	2.00	2.02	1.34	1.49	1.21	1.86	1.34	1.35	24.95	28.87	38.15
	Hawaiians	Reliability	0.85	0.81	0.78	0.78	0.77	0.67	0.79	0.76	0.55	0.59	0.68	0.90	0.78	0.90
		RMS(CSEM)	1.54	1.83	1.74	1.95	2.10	1.38	1.44	1.22	1.90	1.40	1.32	23.87	34.80	42.20
	American Indians/AK Natives	Reliability	0.85	0.81	0.74	0.76	0.76	0.67	0.78	0.75	0.58	0.57	0.64	0.90	0.74	0.89
		RMS(CSEM)	1.56	1.80	1.87	2.00	2.05	1.41	1.46	1.22	1.86	1.43	1.42	23.84	37.32	44.29
	Two or more races	Reliability	0.88	0.85	0.86	0.83	0.83	0.74	0.80	0.80	0.65	0.73	0.75	0.92	0.86	0.94
		RMS(CSEM)	1.58	1.86	1.59	1.94	2.00	1.34	1.48	1.20	1.87	1.36	1.36	24.35	31.85	40.09
Gender	Males	Reliability	0.87	0.86	0.86	0.83	0.82	0.73	0.82	0.81	0.66	0.73	0.76	0.93	0.86	0.94
		RMS(CSEM)	1.60	1.84	1.63	1.98	2.07	1.38	1.46	1.21	1.88	1.36	1.34	24.37	32.55	40.66
	Females	Reliability	0.87	0.84	0.84	0.82	0.82	0.74	0.80	0.80	0.63	0.70	0.73	0.92	0.84	0.93
		RMS(CSEM)	1.61	1.86	1.64	1.99	2.09	1.37	1.48	1.21	1.90	1.37	1.34	24.58	32.72	40.92
Grade Level	8th	Reliability	0.86	0.84	0.80	0.80	0.80	0.71	0.80	0.79	0.62	0.64	0.71	0.92	0.80	0.92
		RMS(CSEM)	1.57	1.83	1.71	1.99	2.10	1.37	1.44	1.21	1.89	1.38	1.34	24.07	34.26	41.87
	9th	Reliability	0.88	0.86	0.86	0.83	0.83	0.74	0.81	0.81	0.66	0.74	0.75	0.93	0.86	0.94
		RMS(CSEM)	1.61	1.86	1.60	1.99	2.04	1.37	1.48	1.21	1.88	1.37	1.35	24.58	31.92	40.29

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Table A-6.8.7: Scale Score Reliability Estimates by Subgroup and Score Tier for PSAT 8/9 Form 2

			R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	ERW	MSS	TOTAL
Race/ Ethnicity	Whites	Reliability	0.84	0.85	0.84	0.78	0.75	0.73	0.73	0.77	0.73	0.72	0.71	0.91	0.84	0.93
		RMS(CSEM)	1.68	1.74	1.53	2.07	2.17	1.33	1.62	1.28	1.63	1.35	1.43	24.24	30.55	39
	Blacks	Reliability	0.82	0.8	0.7	0.73	0.63	0.65	0.71	0.69	0.69	0.55	0.55	0.89	0.7	0.88
		RMS(CSEM)	1.59	1.74	1.82	1.93	2.13	1.39	1.61	1.36	1.68	1.37	1.44	23.57	36.33	43.3
	Hispanics	Reliability	0.84	0.83	0.77	0.76	0.7	0.69	0.73	0.74	0.71	0.63	0.64	0.9	0.77	0.91
		RMS(CSEM)	1.61	1.73	1.68	1.97	2.13	1.35	1.61	1.33	1.69	1.34	1.42	23.65	33.55	41.04
	Asians	Reliability	0.87	0.87	0.92	0.85	0.81	0.78	0.77	0.81	0.76	0.83	0.81	0.93	0.92	0.96
		RMS(CSEM)	1.72	1.77	1.37	2.11	2.15	1.3	1.59	1.26	1.6	1.28	1.35	24.64	27.41	36.86
	American Indians/ Alaska Natives	Reliability	0.8	0.8	0.73	0.7	0.65	0.64	0.71	0.68	0.71	0.54	0.63	0.88	0.73	0.88
		RMS(CSEM)	1.61	1.74	1.79	1.96	2.13	1.39	1.63	1.36	1.67	1.4	1.44	23.67	35.8	42.92
	Two or more races	Reliability	0.85	0.86	0.85	0.8	0.75	0.74	0.74	0.77	0.75	0.72	0.73	0.92	0.85	0.93
		RMS(CSEM)	1.66	1.76	1.56	2	2.15	1.34	1.63	1.32	1.66	1.33	1.4	24.15	31.16	39.42
Gender	Males	Reliability	0.85	0.86	0.86	0.81	0.77	0.74	0.76	0.78	0.75	0.75	0.75	0.92	0.86	0.94
		RMS(CSEM)	1.66	1.75	1.58	2.03	2.16	1.35	1.63	1.32	1.66	1.34	1.43	24.14	31.54	39.72
	Females	Reliability	0.84	0.85	0.84	0.78	0.74	0.73	0.74	0.77	0.73	0.71	0.7	0.91	0.84	0.93
		RMS(CSEM)	1.68	1.76	1.57	2.05	2.18	1.34	1.63	1.31	1.66	1.34	1.43	24.37	31.41	39.75
Grade Level	8th	Reliability	0.84	0.85	0.85	0.79	0.75	0.72	0.74	0.77	0.74	0.73	0.72	0.91	0.85	0.93
		RMS(CSEM)	1.67	1.76	1.55	2.02	2.18	1.35	1.64	1.32	1.69	1.3	1.41	24.3	31.1	39.47
	9th	Reliability	0.85	0.86	0.85	0.8	0.76	0.74	0.75	0.78	0.75	0.73	0.73	0.92	0.85	0.93
		RMS(CSEM)	1.67	1.76	1.58	2.05	2.17	1.35	1.63	1.31	1.65	1.34	1.43	24.24	31.5	39.75

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Table A-6.9.1: Raw Score Correlations and Moments by Score Tier for SAT Form 1

SAT Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Reading	1.00	0.94	0.80	1.00	1.00	1.00	1.00	0.95	0.92	0.80	0.85	0.74
W&L	0.83	1.00	0.83	0.99	0.97	1.00	1.00	1.00	1.00	0.83	0.87	0.77
Math	0.73	0.74	1.00	0.90	0.92	0.84	0.82	0.83	0.82	1.00	1.00	1.00
HSS	0.91	0.84	0.79	1.00	0.98	1.00	1.00	1.00	0.95	0.89	0.98	0.81
SCI	0.91	0.83	0.80	0.82	1.00	1.00	1.00	1.00	0.92	0.91	0.95	0.86
COE	0.86	0.84	0.69	0.83	0.82	1.00	1.00	1.00	0.97	0.85	0.89	0.78
WIC	0.83	0.84	0.66	0.81	0.79	0.72	1.00	1.00	0.97	0.82	0.87	0.75
EOI	0.80	0.95	0.71	0.83	0.81	0.84	0.84	1.00	0.98	0.83	0.87	0.77
SEC	0.75	0.92	0.68	0.75	0.73	0.71	0.71	0.76	1.00	0.82	0.85	0.76
HOA	0.68	0.69	0.92	0.73	0.74	0.64	0.62	0.66	0.63	1.00	0.98	0.95
PSD	0.70	0.70	0.90	0.78	0.76	0.66	0.64	0.67	0.64	0.76	1.00	0.92
PAM	0.59	0.61	0.88	0.64	0.67	0.56	0.54	0.58	0.56	0.73	0.69	1.00
N	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904
Mean	32.63	27.37	30.46	20.35	22.87	11.22	11.68	15.31	12.06	10.29	9.77	7.91
SD	9.01	7.79	10.85	6.29	6.21	3.47	3.27	4.60	3.71	3.80	3.49	3.35
Skewness	−0.19	−0.16	0.29	0.03	−0.26	−0.22	−0.31	−0.22	−0.15	0.10	0.00	0.24
Kurtosis	−0.61	−0.65	−0.59	−0.63	−0.58	−0.57	−0.45	−0.67	−0.56	−0.64	−0.61	−0.50

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.2: Raw Score Correlations and Moments by Score Tier for SAT Form 2

SAT Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Reading	1.00	0.93	0.80	1.00	1.00	1.00	1.00	0.95	0.90	0.80	0.84	0.76
W&L	0.80	1.00	0.81	0.98	0.97	1.00	1.00	1.00	1.00	0.81	0.84	0.77
Math	0.72	0.71	1.00	0.89	0.89	0.85	0.81	0.81	0.79	1.00	1.00	1.00
HSS	0.91	0.81	0.77	1.00	0.97	1.00	1.00	1.00	0.93	0.90	0.94	0.83
SCI	0.92	0.82	0.79	0.81	1.00	1.00	1.00	1.00	0.91	0.88	0.96	0.84
COE	0.85	0.82	0.68	0.81	0.83	1.00	1.00	1.00	0.95	0.85	0.89	0.80
WIC	0.81	0.81	0.63	0.79	0.79	0.69	1.00	1.00	0.98	0.81	0.85	0.77
EOI	0.77	0.94	0.67	0.79	0.81	0.82	0.81	1.00	0.99	0.81	0.85	0.77
SEC	0.71	0.91	0.64	0.70	0.70	0.67	0.67	0.72	1.00	0.79	0.81	0.76
HOA	0.66	0.65	0.93	0.71	0.72	0.63	0.58	0.62	0.59	1.00	0.97	1.00
PSD	0.69	0.68	0.88	0.74	0.78	0.66	0.61	0.65	0.60	0.75	1.00	0.92
PAM	0.63	0.62	0.91	0.66	0.68	0.59	0.55	0.59	0.56	0.78	0.71	1.00
N	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649
Mean	32.65	26.92	30.03	20.10	21.09	11.33	11.56	14.27	12.64	10.01	9.70	7.67
SD	8.88	6.93	10.52	5.97	6.71	3.33	3.09	4.18	3.29	3.85	3.17	3.60
Skewness	−0.02	−0.11	0.22	0.04	−0.06	−0.24	−0.26	−0.10	−0.24	0.13	−0.24	0.28
Kurtosis	−0.62	−0.45	−0.55	−0.54	−0.75	−0.50	−0.38	−0.53	−0.31	−0.59	−0.52	−0.63

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.3: Raw Score Correlations and Moments by Score Tier for SAT Form 3

SAT Form 3	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Reading	1.00	0.93	0.80	1.00	1.00	1.00	1.00	0.94	0.89	0.79	0.84	0.73
W&L	0.81	1.00	0.82	0.98	0.95	1.00	1.00	1.00	1.00	0.81	0.85	0.76
Math	0.72	0.73	1.00	0.91	0.90	0.85	0.81	0.81	0.81	1.00	1.00	1.00
HSS	0.91	0.83	0.80	1.00	0.96	1.00	1.00	1.00	0.92	0.89	0.97	0.84
SCI	0.90	0.81	0.79	0.81	1.00	1.00	1.00	0.99	0.88	0.92	0.89	0.84
COE	0.86	0.81	0.68	0.83	0.80	1.00	0.99	1.00	0.95	0.84	0.89	0.78
WIC	0.82	0.83	0.66	0.79	0.78	0.69	1.00	1.00	0.94	0.80	0.85	0.73
EOI	0.77	0.94	0.68	0.80	0.78	0.81	0.84	1.00	0.96	0.81	0.84	0.75
SEC	0.74	0.92	0.68	0.74	0.71	0.69	0.70	0.73	1.00	0.80	0.83	0.75
HOA	0.67	0.68	0.93	0.73	0.76	0.63	0.61	0.63	0.63	1.00	0.94	0.98
PSD	0.71	0.70	0.88	0.79	0.73	0.66	0.64	0.65	0.65	0.75	1.00	0.88
PAM	0.59	0.61	0.89	0.66	0.66	0.56	0.54	0.56	0.57	0.76	0.68	1.00
N	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672
Mean	32.43	28.24	31.40	21.69	20.40	10.99	11.92	14.52	13.72	10.35	10.69	8.07
SD	9.23	7.46	11.17	6.18	6.49	3.41	3.31	4.26	3.77	4.10	3.58	3.33
Skewness	−0.18	−0.14	0.26	−0.08	−0.09	−0.22	−0.22	−0.05	−0.34	0.18	−0.32	0.37
Kurtosis	−0.73	−0.54	−0.66	−0.68	−0.67	−0.56	−0.55	−0.51	−0.51	−0.78	−0.64	−0.45

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.4: Raw Score Correlations and Moments by Score Tier for PSAT/NMSQT and PSAT 10 Form 1

PSAT/NMSQT and PSAT 10 Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Reading	1.00	0.94	0.78	1.00	1.00	1.00	1.00	0.95	0.92	0.75	0.82	0.70
W&L	0.83	1.00	0.80	0.99	0.98	1.00	1.00	1.00	1.00	0.78	0.84	0.73
Math	0.69	0.72	1.00	0.87	0.87	0.81	0.77	0.80	0.80	1.00	1.00	1.00
HSS	0.91	0.85	0.75	1.00	0.97	1.00	1.00	1.00	0.95	0.82	0.96	0.76
SCI	0.91	0.84	0.76	0.81	1.00	1.00	1.00	1.00	0.94	0.85	0.91	0.77
COE	0.87	0.85	0.67	0.85	0.83	1.00	1.00	1.00	0.97	0.79	0.86	0.73
WIC	0.86	0.86	0.65	0.84	0.83	0.76	1.00	1.00	0.98	0.73	0.82	0.68
EOI	0.81	0.96	0.69	0.84	0.84	0.87	0.87	1.00	1.00	0.78	0.84	0.72
SEC	0.75	0.93	0.66	0.76	0.75	0.74	0.76	0.79	1.00	0.77	0.83	0.73
HOA	0.61	0.64	0.91	0.65	0.68	0.59	0.57	0.61	0.59	1.00	0.92	0.94
PSD	0.65	0.67	0.87	0.74	0.71	0.63	0.62	0.65	0.62	0.68	1.00	0.87
PAM	0.57	0.59	0.87	0.60	0.61	0.55	0.52	0.57	0.55	0.71	0.64	1.00
N	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383
Mean	23.25	24.14	19.32	16.19	15.06	9.23	10.34	12.88	11.25	6.13	7.68	4.78
SD	8.56	8.74	8.24	5.89	6.40	3.78	3.89	5.18	4.05	3.22	2.94	2.78
Skewness	0.29	0.14	0.91	0.16	0.38	0.17	−0.09	0.14	0.03	0.74	0.30	0.96
Kurtosis	−0.54	−0.72	0.64	−0.61	−0.51	−0.61	−0.85	−0.74	−0.66	0.23	−0.15	0.83

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.5: Raw Score Correlations and Moments by Score Tier for PSAT/NMSQT and PSAT 10 Form 2

PSAT/NMSQT and PSAT 10 Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
Reading	1.00	0.93	0.81	1.00	1.00	1.00	1.00	0.94	0.90	0.81	0.83	0.71
W&L	0.81	1.00	0.82	0.97	0.97	1.00	1.00	1.00	1.00	0.82	0.83	0.71
Math	0.72	0.72	1.00	0.91	0.91	0.85	0.79	0.82	0.80	1.00	1.00	1.00
HSS	0.89	0.82	0.79	1.00	0.96	1.00	1.00	0.99	0.91	0.89	0.95	0.79
SCI	0.91	0.83	0.79	0.80	1.00	1.00	1.00	0.99	0.90	0.90	0.92	0.80
COE	0.86	0.82	0.69	0.80	0.83	1.00	0.98	1.00	0.94	0.85	0.86	0.74
WIC	0.85	0.85	0.67	0.81	0.81	0.73	1.00	1.00	0.95	0.79	0.82	0.67
EOI	0.79	0.95	0.70	0.82	0.83	0.84	0.86	1.00	0.97	0.82	0.84	0.71
SEC	0.70	0.91	0.64	0.70	0.70	0.67	0.70	0.74	1.00	0.80	0.80	0.72
HOA	0.66	0.67	0.92	0.71	0.73	0.63	0.61	0.65	0.59	1.00	0.95	0.91
PSD	0.69	0.69	0.90	0.77	0.75	0.65	0.64	0.67	0.60	0.74	1.00	0.83
PAM	0.55	0.56	0.83	0.60	0.61	0.53	0.50	0.54	0.50	0.67	0.62	1.00
N	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890
Mean	23.01	21.94	19.58	14.87	15.99	8.29	9.73	12.24	9.70	6.76	7.41	4.75
SD	8.17	8.11	8.91	5.62	6.46	3.54	3.82	5.08	3.62	3.56	3.53	2.60
Skewness	0.34	0.29	0.80	0.47	0.29	0.25	0.05	0.17	0.30	0.58	0.33	0.94
Kurtosis	−0.47	−0.65	0.07	−0.23	−0.69	−0.56	−0.80	−0.83	−0.32	−0.35	−0.65	0.93

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.6: Raw Score Correlations and Moments by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Reading	1.00	0.93	0.79	1.00	1.00	1.00	1.00	0.94	0.91	0.78	0.79
W&L	0.80	1.00	0.80	0.99	0.97	1.00	1.00	1.00	1.00	0.79	0.79
Math	0.69	0.69	1.00	0.88	0.87	0.83	0.79	0.80	0.80	1.00	1.00
HSS	0.90	0.84	0.76	1.00	0.96	1.00	1.00	1.00	0.96	0.88	0.88
SCI	0.91	0.82	0.74	0.80	1.00	1.00	1.00	0.99	0.94	0.83	0.88
COE	0.86	0.84	0.67	0.84	0.82	1.00	1.00	1.00	0.97	0.82	0.82
WIC	0.88	0.87	0.66	0.84	0.85	0.77	1.00	1.00	1.00	0.77	0.79
EOI	0.80	0.96	0.68	0.84	0.82	0.86	0.88	1.00	1.00	0.79	0.80
SEC	0.68	0.89	0.59	0.69	0.68	0.66	0.71	0.73	1.00	0.79	0.78
HOA	0.62	0.62	0.91	0.68	0.65	0.60	0.59	0.61	0.54	1.00	0.90
PSD	0.64	0.63	0.89	0.70	0.70	0.61	0.61	0.62	0.54	0.67	1.00
N	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262
Mean	21.88	20.67	15.20	13.34	13.32	8.79	10.71	12.45	8.21	5.78	7.30
SD	8.16	7.66	6.63	5.46	6.29	3.60	4.10	5.13	3.05	3.02	3.05
Skewness	0.12	0.07	0.82	0.21	0.29	0.16	−0.10	0.07	−0.01	0.80	0.37
Kurtosis	−0.73	−0.75	0.34	−0.51	−0.73	−0.61	−0.92	−0.85	−0.53	0.46	−0.28

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.9.7: Raw Score Correlations and Moments by Score Tier for PSAT 8/9 Form 2

PSAT 8/9 Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD
Reading	1.00	0.92	0.80	1.00	1.00	1.00	1.00	0.93	0.88	0.79	0.81
W&L	0.79	1.00	0.81	0.97	0.99	1.00	1.00	1.00	1.00	0.80	0.82
Math	0.68	0.70	1.00	0.88	0.93	0.84	0.80	0.82	0.78	1.00	1.00
HSS	0.89	0.81	0.74	1.00	0.96	1.00	1.00	1.00	0.90	0.87	0.90
SCI	0.87	0.80	0.75	0.75	1.00	1.00	1.00	1.00	0.90	0.87	0.97
COE	0.85	0.83	0.68	0.81	0.82	1.00	0.97	1.00	0.92	0.84	0.85
WIC	0.84	0.83	0.64	0.82	0.79	0.72	1.00	1.00	0.95	0.79	0.82
EOI	0.76	0.95	0.68	0.80	0.79	0.83	0.83	1.00	0.96	0.81	0.83
SEC	0.70	0.90	0.62	0.69	0.67	0.68	0.70	0.72	1.00	0.77	0.79
HOA	0.63	0.64	0.91	0.67	0.65	0.62	0.58	0.61	0.56	1.00	0.94
PSD	0.63	0.64	0.90	0.69	0.72	0.62	0.60	0.62	0.57	0.68	1.00
N	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918
Mean	23.30	21.45	16.47	15.18	13.62	9.25	10.14	11.49	9.95	6.43	7.92
SD	7.40	7.43	6.58	5.10	5.00	3.66	3.63	4.66	3.32	2.97	3.07
Skewness	−0.08	0.04	0.55	−0.03	0.22	0.13	−0.23	0.22	−0.30	0.46	0.15
Kurtosis	−0.65	−0.67	−0.08	−0.53	−0.47	−0.70	−0.66	−0.61	−0.53	−0.07	−0.42

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

Table A-6.10.1: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 1

SAT Form 1 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	34.82	8.10	25.86	8.55	−1.09	29.52	8.76	−0.64	34.11	9.02	−0.09
WL	29.20	7.02	21.42	7.31	−1.10	24.62	7.43	−0.64	29.19	7.88	0.00
MTS	32.54	9.98	21.80	8.52	−1.10	26.28	9.45	−0.64	36.82	11.43	0.42
HSS	21.72	5.82	16.04	5.68	−0.98	18.05	5.91	−0.63	21.98	6.42	0.04
SCI	24.39	5.53	17.72	5.85	−1.19	20.66	5.94	−0.66	24.55	6.01	0.03
COE	12.00	3.16	8.70	3.29	−1.04	10.09	3.34	−0.60	11.85	3.46	−0.05
WIC	12.45	2.91	9.41	3.26	−1.02	10.52	3.23	−0.64	12.20	3.32	−0.08
EOI	16.31	4.18	11.97	4.40	−1.03	13.74	4.40	−0.61	16.50	4.60	0.04
SEC	12.88	3.39	9.45	3.47	−1.01	10.88	3.59	−0.58	12.69	3.78	−0.06
HOA	10.98	3.54	7.56	3.20	−0.98	8.95	3.46	−0.58	12.16	3.95	0.33
PSD	10.54	3.18	7.05	3.05	−1.11	8.41	3.19	−0.67	11.24	3.52	0.21
PAM	8.33	3.19	5.68	2.72	−0.85	6.90	2.97	−0.46	10.02	3.47	0.52

SAT Form 1 Score	White		Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	34.82	8.10	28.73	8.93	−0.75	29.40	9.26	−0.67	34.15	8.73	−0.08
WL	29.20	7.02	23.97	7.70	−0.74	24.31	7.66	−0.70	28.73	7.62	−0.07
MTS	32.54	9.98	26.22	10.46	−0.63	26.08	9.86	−0.65	32.03	11.01	−0.05
HSS	21.72	5.82	17.51	6.04	−0.72	18.03	6.19	−0.63	21.41	6.22	−0.05
SCI	24.39	5.53	20.21	6.26	−0.76	20.63	6.26	−0.68	23.86	6.07	−0.10
COE	12.00	3.16	9.86	3.44	−0.68	9.99	3.55	−0.64	11.76	3.40	−0.08
WIC	12.45	2.91	10.35	3.33	−0.72	10.47	3.35	−0.68	12.26	3.16	−0.06
EOI	16.31	4.18	13.33	4.49	−0.71	13.62	4.56	−0.64	16.10	4.51	−0.05
SEC	12.88	3.39	10.65	3.75	−0.66	10.69	3.65	−0.65	12.63	3.62	−0.07
HOA	10.98	3.54	8.80	3.65	−0.61	8.83	3.60	−0.61	10.78	3.82	−0.06
PSD	10.54	3.18	8.37	3.54	−0.68	8.64	3.36	−0.60	10.24	3.48	−0.10
PAM	8.33	3.19	6.93	3.20	−0.44	6.59	2.99	−0.55	8.32	3.42	0.00

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.10.2: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 2

SAT Form 1 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	35.12	8.12	26.99	8.16	−1.00	29.38	8.45	−0.70	33.34	8.93	−0.22
WL	28.80	6.30	22.51	6.59	−0.99	24.37	6.58	−0.69	27.72	6.94	−0.17
MTS	32.49	9.62	22.67	8.89	−1.03	25.89	9.54	−0.69	35.74	11.22	0.33
HSS	21.59	5.52	16.42	5.56	−0.94	17.96	5.63	−0.65	21.30	6.07	−0.05
SCI	23.09	6.07	16.39	6.07	−1.10	18.43	6.39	−0.75	21.99	6.46	−0.18
COE	12.25	3.00	9.24	3.21	−0.99	10.15	3.26	−0.68	11.55	3.36	−0.23
WIC	12.37	2.78	9.71	3.03	−0.94	10.47	3.02	−0.67	11.81	3.11	−0.20
EOI	15.37	3.84	11.75	3.93	−0.94	12.78	3.99	−0.67	14.69	4.20	−0.18
SEC	13.43	3.02	10.75	3.26	−0.87	11.59	3.19	−0.60	13.03	3.28	−0.13
HOA	10.80	3.61	7.58	3.34	−0.90	8.64	3.53	−0.60	11.98	3.98	0.32
PSD	10.54	2.80	7.48	3.01	−1.08	8.46	3.07	−0.72	10.78	3.15	0.09
PAM	8.31	3.43	5.58	3.03	−0.81	6.49	3.27	−0.54	9.74	3.82	0.41
SAT Form 2 Score	**White**		**Hawaiian**			**AIAN**			**Two or More Races**		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	35.12	8.12	29.51	8.07	−0.69	30.04	8.96	−0.63	34.09	8.68	−0.13
WL	28.80	6.30	24.40	6.42	−0.70	24.88	7.08	−0.62	27.99	6.78	−0.13
MTS	32.49	9.62	27.20	9.76	−0.55	27.20	10.13	−0.55	31.20	10.34	−0.13
HSS	21.59	5.52	18.11	5.54	−0.63	18.44	5.92	−0.57	21.01	5.87	−0.10
SCI	23.09	6.07	18.76	6.10	−0.71	19.19	6.81	−0.64	22.08	6.60	−0.17
COE	12.25	3.00	10.18	3.26	−0.69	10.49	3.41	−0.59	11.83	3.22	−0.14
WIC	12.37	2.78	10.57	2.99	−0.65	10.71	3.18	−0.60	12.01	3.01	−0.13
EOI	15.37	3.84	12.79	3.91	−0.67	13.18	4.24	−0.57	14.91	4.10	−0.12
SEC	13.43	3.02	11.61	3.15	−0.60	11.70	3.40	−0.57	13.08	3.21	−0.12
HOA	10.80	3.61	9.04	3.75	−0.49	9.02	3.73	−0.49	10.41	3.78	−0.11
PSD	10.54	2.80	8.81	2.96	−0.62	8.97	3.14	−0.56	10.06	3.05	−0.17
PAM	8.31	3.43	6.89	3.31	−0.41	6.79	3.51	−0.44	7.99	3.62	−0.09

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.10.3: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 3

SAT Form 3 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	35.09	8.24	27.06	8.99	−0.96	29.05	9.02	−0.71	33.75	9.18	−0.16
WL	30.40	6.74	24.06	7.18	−0.93	25.45	7.08	−0.72	29.27	7.69	−0.16
MTS	34.16	10.30	23.90	9.25	−1.01	27.07	9.97	−0.70	37.19	11.79	0.29
HSS	23.39	5.58	18.06	5.81	−0.95	19.38	5.94	−0.70	23.12	6.24	−0.05
SCI	22.25	5.87	16.24	6.02	−1.02	17.92	6.15	−0.72	22.13	6.39	−0.02
COE	11.86	3.10	9.12	3.37	−0.87	9.90	3.33	−0.62	11.50	3.42	−0.12
WIC	12.82	3.00	10.36	3.28	−0.80	10.70	3.21	−0.69	12.31	3.39	−0.17
EOI	15.61	3.97	12.40	4.03	−0.81	13.05	3.99	−0.64	15.16	4.45	−0.11
SEC	14.79	3.37	11.66	3.78	−0.91	12.40	3.70	−0.69	14.11	3.77	−0.20
HOA	11.22	3.90	7.89	3.49	−0.87	8.94	3.71	−0.59	12.38	4.19	0.29
PSD	11.78	3.11	8.27	3.41	−1.11	9.22	3.50	−0.78	11.77	3.47	0.00
PAM	8.61	3.20	6.21	2.77	−0.77	7.09	2.96	−0.49	9.97	3.60	0.41

SAT Form 3 Score	White		Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	35.09	8.24	29.00	8.81	−0.74	29.93	8.96	−0.63	34.07	8.79	−0.12
WL	30.40	6.74	25.20	6.89	−0.77	25.70	7.34	−0.70	29.46	7.06	−0.14
MTS	34.16	10.30	27.71	10.34	−0.63	27.90	10.25	−0.61	32.55	10.91	−0.16
HSS	23.39	5.58	19.34	5.88	−0.72	19.90	5.89	−0.62	22.67	5.91	−0.13
SCI	22.25	5.87	18.03	6.09	−0.72	18.59	6.19	−0.62	21.37	6.29	−0.15
COE	11.86	3.10	9.82	3.38	−0.66	10.04	3.31	−0.59	11.51	3.27	−0.11
WIC	12.82	3.00	10.70	3.11	−0.71	11.06	3.26	−0.58	12.44	3.13	−0.13
EOI	15.61	3.97	12.89	3.89	−0.69	13.28	4.12	−0.59	15.19	4.10	−0.11
SEC	14.79	3.37	12.31	3.64	−0.74	12.42	3.79	−0.70	14.27	3.54	−0.16
HOA	11.22	3.90	9.09	3.77	−0.54	9.15	3.82	−0.53	10.71	4.06	−0.13
PSD	11.78	3.11	9.39	3.53	−0.77	9.73	3.48	−0.66	11.14	3.38	−0.21
PAM	8.61	3.20	7.27	3.16	−0.42	7.04	3.04	−0.49	8.32	3.30	−0.09

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.10.4: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT/NMSQT and PSAT10 Form 1

PSAT/NMSQT and PSAT 10 Form 1 Score	White		Black			Hispanic			Asian			Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	26.22	8.03	18.99	7.21	−0.92	19.97	7.52	−0.80	26.08	9.10	−0.02	20.44	7.56	−0.72	20.08	7.60	−0.76	24.57	8.39	−0.20
WL	27.18	8.07	19.62	7.40	−0.95	20.62	7.75	−0.83	27.96	8.94	0.09	21.36	7.91	−0.72	20.45	7.90	−0.83	25.41	8.45	−0.22
MTS	21.35	7.87	14.97	5.82	−0.85	16.22	6.37	−0.70	26.65	10.39	0.64	16.97	7.13	−0.56	16.32	6.62	−0.64	19.83	8.13	−0.19
HSS	18.21	5.41	13.29	5.05	−0.92	13.79	5.28	−0.82	18.69	6.09	0.09	14.23	5.40	−0.74	13.94	5.33	−0.79	17.10	5.71	−0.20
SCI	17.30	6.05	11.53	5.18	−0.98	12.50	5.47	−0.82	17.89	6.75	0.09	13.03	5.63	−0.71	12.83	5.58	−0.74	15.85	6.35	−0.24
COE	10.44	3.59	7.45	3.24	−0.85	7.85	3.38	−0.74	10.59	3.89	0.04	8.04	3.40	−0.67	7.86	3.45	−0.72	9.77	3.69	−0.19
WIC	11.76	3.48	8.39	3.51	−0.97	8.80	3.59	−0.84	11.40	3.93	−0.10	9.22	3.66	−0.73	8.91	3.70	−0.82	11.03	3.69	−0.21
EOI	14.66	4.82	10.25	4.42	−0.93	10.84	4.61	−0.80	14.96	5.31	0.06	11.28	4.70	−0.70	10.89	4.73	−0.78	13.64	5.03	−0.21
SEC	12.52	3.77	9.37	3.56	−0.85	9.78	3.69	−0.73	13.00	4.08	0.12	10.08	3.77	−0.65	9.57	3.72	−0.78	11.76	3.93	−0.20
HOA	6.79	3.13	4.63	2.39	−0.72	5.08	2.60	−0.58	8.84	3.95	0.63	5.31	2.83	−0.47	5.09	2.69	−0.54	6.27	3.20	−0.17
PSD	8.50	2.78	6.18	2.46	−0.85	6.64	2.54	−0.69	9.47	3.26	0.34	6.78	2.71	−0.62	6.69	2.69	−0.65	7.92	2.88	−0.21
PAM	5.23	2.72	3.65	2.04	−0.61	3.93	2.21	−0.51	7.29	3.60	0.72	4.23	2.41	−0.37	3.94	2.22	−0.47	4.89	2.76	−0.13

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.10.5: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT 10 Form 2

	White		Black			Hispanic			Asian			Hawaiian			AIAN			Two or More Races		
Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	25.02	7.85	18.09	6.67	−0.91	20.02	7.18	−0.65	26.55	8.96	0.19	21.47	7.54	−0.45	19.20	6.97	−0.74	23.68	8.01	−0.17
WL	23.90	7.84	17.22	6.62	−0.87	19.00	7.04	−0.64	25.66	8.86	0.22	20.51	7.36	−0.43	17.78	6.77	−0.78	22.40	7.94	−0.19
MTS	21.32	8.74	14.11	5.91	−0.87	16.42	6.98	−0.59	27.96	10.96	0.74	17.61	8.05	−0.42	15.33	6.76	−0.69	19.50	8.74	−0.21
HSS	16.10	5.50	11.63	4.41	−0.84	12.97	4.79	−0.59	18.10	6.33	0.36	13.63	5.21	−0.45	12.06	4.63	−0.74	15.17	5.52	−0.17
SCI	17.63	6.21	11.85	5.04	−0.96	13.50	5.59	−0.68	19.36	6.84	0.28	14.76	5.86	−0.46	12.97	5.43	−0.75	16.29	6.30	−0.22
COE	9.09	3.44	6.32	2.96	−0.82	7.12	3.14	−0.58	9.85	3.78	0.22	7.61	3.39	−0.43	6.72	3.02	−0.69	8.52	3.50	−0.16
WIC	10.67	3.66	7.69	3.31	−0.83	8.32	3.43	−0.65	10.87	4.10	0.05	9.04	3.53	−0.45	7.91	3.46	−0.76	10.07	3.71	−0.16
EOI	13.46	4.91	9.43	4.24	−0.84	10.41	4.49	−0.64	14.28	5.39	0.17	11.19	4.63	−0.46	9.73	4.34	−0.76	12.56	4.95	−0.18
SEC	10.44	3.53	7.79	3.08	−0.77	8.60	3.20	−0.53	11.38	3.98	0.26	9.32	3.37	−0.32	8.05	3.14	−0.68	9.84	3.58	−0.17
HOA	7.43	3.54	4.76	2.57	−0.79	5.57	2.92	−0.55	9.72	4.03	0.64	6.03	3.14	−0.40	5.14	2.84	−0.65	6.72	3.55	−0.20
PSD	8.17	3.45	5.23	2.68	−0.88	6.21	3.03	−0.59	9.83	3.80	0.48	6.56	3.42	−0.47	5.84	3.01	−0.68	7.41	3.49	−0.22
PAM	5.03	2.58	3.63	1.88	−0.56	4.09	2.09	−0.38	7.38	3.53	0.88	4.44	2.33	−0.23	3.81	2.02	−0.48	4.73	2.52	−0.12

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

Table A-6.10.6: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	26.06	7.29	18.84	7.19	−0.99	19.29	7.47	−0.92	25.78	8.05	−0.04
WL	24.44	6.96	18.08	6.78	−0.92	18.34	7.00	−0.87	24.51	7.48	0.01
MTS	17.82	6.66	12.70	5.21	−0.81	13.28	5.46	−0.75	20.53	8.02	0.39
HSS	15.98	5.03	11.49	4.77	−0.90	11.62	4.88	−0.88	16.36	5.60	0.07
SCI	16.57	5.82	10.81	5.26	−1.01	11.32	5.60	−0.92	16.75	6.31	0.03
COE	10.34	3.39	7.52	3.21	−0.84	7.82	3.33	−0.75	10.65	3.62	0.09
WIC	12.89	3.54	9.35	3.70	−0.99	9.36	3.82	−0.96	12.48	3.85	−0.11
EOI	14.93	4.68	10.66	4.53	−0.92	10.95	4.75	−0.84	14.85	5.02	−0.02
SEC	9.50	2.84	7.42	2.86	−0.73	7.39	2.84	−0.74	9.66	2.97	0.05
HOA	6.82	3.09	4.82	2.42	−0.68	4.98	2.54	−0.66	8.04	3.71	0.38
PSD	8.45	2.98	6.17	2.62	−0.79	6.50	2.68	−0.69	9.28	3.37	0.27
	White		Hawaiian			AIAN			Two or More Races		
Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	26.06	7.29	19.19	7.41	−0.94	19.56	7.44	−0.89	23.92	7.82	−0.29
WL	24.44	6.96	18.38	6.86	−0.87	17.79	6.83	−0.96	22.53	7.47	−0.27
MTS	17.82	6.66	13.21	5.50	−0.69	13.10	5.42	−0.71	16.17	6.85	−0.25
HSS	15.98	5.03	11.59	4.84	−0.87	11.54	4.79	−0.88	14.55	5.28	−0.28
SCI	16.57	5.82	11.49	5.60	−0.87	11.79	5.47	−0.82	14.73	6.24	−0.31
COE	10.34	3.39	7.65	3.22	−0.79	7.55	3.28	−0.82	9.52	3.56	−0.24
WIC	12.89	3.54	9.43	3.90	−0.97	9.46	3.89	−0.97	11.85	3.85	−0.29
EOI	14.93	4.68	10.85	4.69	−0.87	10.68	4.62	−0.91	13.68	4.99	−0.27
SEC	9.50	2.84	7.53	2.79	−0.69	7.11	2.82	−0.84	8.85	3.01	−0.23
HOA	6.82	3.09	4.98	2.52	−0.60	4.90	2.49	−0.63	6.20	3.15	−0.20
PSD	8.45	2.98	6.36	2.72	−0.70	6.43	2.73	−0.68	7.69	3.08	−0.25

Note: AIAN stands for American Indian/Alaska Native; Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample size is equal or greater than 200.

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Table A-6.10.7: Raw Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT 8/9 Form 2

	White		Black			Hispanic			Asian			AIAN			Two or More Races		
PSAT 8/9 Form 2 Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	24.74	6.98	19.1	6.8	−0.81	21.09	7.04	−0.52	26.81	7.7	0.29	19.41	6.68	−0.77	23.31	7.25	−0.21
WL	22.96	7.08	17.28	6.46	−0.81	18.84	6.86	−0.58	25.07	7.62	0.3	17.47	6.47	−0.78	21.25	7.41	−0.24
MTS	17.63	6.38	12.53	4.96	−0.83	14.3	5.54	−0.53	22.21	7.92	0.71	13.2	5.25	−0.7	16.01	6.46	−0.25
HSS	16.1	4.84	12.29	4.63	−0.8	13.75	4.78	−0.49	17.97	5.52	0.38	12.56	4.48	−0.73	15.15	5.03	−0.2
SCI	14.65	4.81	10.7	4.14	−0.84	11.83	4.54	−0.59	16.21	5.34	0.32	11.25	4.27	−0.71	13.42	4.92	−0.25
COE	9.91	3.56	7.29	3.16	−0.75	8.18	3.36	−0.49	11.02	3.83	0.31	7.38	3.14	−0.72	9.19	3.64	−0.2
WIC	10.89	3.39	8.07	3.41	−0.83	8.97	3.5	−0.56	11.41	3.63	0.15	8.39	3.43	−0.74	10.11	3.52	−0.23
EOI	12.39	4.52	9.02	3.96	−0.76	9.91	4.27	−0.55	13.59	4.99	0.26	9.22	3.9	−0.7	11.41	4.64	−0.22
SEC	10.57	3.14	8.27	3.13	−0.73	8.93	3.19	−0.52	11.48	3.16	0.29	8.25	3.23	−0.74	9.83	3.32	−0.23
HOA	6.88	2.9	4.83	2.38	−0.73	5.6	2.59	−0.45	8.93	3.55	0.69	5.03	2.43	−0.64	6.2	2.92	−0.23
PSD	8.48	2.98	6.16	2.55	−0.8	6.96	2.74	−0.52	9.92	3.32	0.48	6.56	2.77	−0.64	7.78	3.04	−0.23

Note: AIAN stands for American Indian/Alaska Native; Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample size is equal or greater than 200.

Table A-6.11.1: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for SAT Form 1

SAT Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	32.82	9.19	32.47	8.86	−0.04
WL	27.14	7.89	27.55	7.70	0.05
MTS	32.03	11.29	29.15	10.30	−0.27
HSS	20.71	6.48	20.05	6.12	−0.10
SCI	23.35	6.36	22.48	6.05	−0.14
COE	11.22	3.52	11.21	3.42	0.00
WIC	11.71	3.31	11.66	3.24	−0.01
EOI	15.22	4.66	15.38	4.54	0.04
SEC	11.92	3.75	12.17	3.67	0.07
HOA	10.91	3.92	9.77	3.62	−0.30
PSD	10.20	3.57	9.41	3.39	−0.23
PAM	8.23	3.49	7.64	3.20	−0.18

Note: Std. Diff. = standardized difference with female group mean - male group mean.

Table A-6.11.2: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for SAT Form 2

SAT Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	33.39	9.09	32.02	8.65	−0.15
WL	27.16	7.12	26.72	6.76	−0.06
MTS	31.69	10.84	28.63	10.03	−0.29
HSS	20.70	6.11	19.60	5.80	−0.18
SCI	21.85	6.82	20.46	6.55	−0.21
COE	11.56	3.41	11.14	3.26	−0.13
WIC	11.89	3.13	11.28	3.02	−0.20
EOI	14.5	4.28	14.09	4.07	−0.10
SEC	12.66	3.37	12.63	3.23	−0.01
HOA	10.53	3.96	9.57	3.70	−0.25
PSD	10.25	3.18	9.24	3.08	−0.32
PAM	8.08	3.71	7.33	3.46	−0.21

Note: Std. Diff. = standardized difference with female group mean - male group mean.

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Table A-6.11.3: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for SAT Form 3

SAT Form 3 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	33.04	9.42	31.97	9.06	−0.12
WL	28.10	7.62	28.34	7.34	0.03
MTS	33.31	11.51	29.96	10.68	−0.30
HSS	22.32	6.26	21.21	6.08	−0.18
SCI	20.99	6.67	19.95	6.31	−0.16
COE	11.12	3.42	10.89	3.39	−0.07
WIC	12.08	3.39	11.80	3.25	−0.08
EOI	14.54	4.36	14.50	4.18	−0.01
SEC	13.56	3.83	13.84	3.72	0.07
HOA	10.96	4.28	9.89	3.90	−0.26
PSD	11.37	3.51	10.18	3.55	−0.34
PAM	8.49	3.45	7.75	3.20	−0.22

Note: Std. Diff. = standardized difference with female group mean - male group mean.

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Table A-6.11.4: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 1

PSAT/NMSQT and PSAT 10 Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	22.82	8.71	23.69	8.38	0.10
WL	23.45	8.93	24.81	8.50	0.16
MTS	19.95	8.67	18.76	7.79	−0.14
HSS	16.05	6.04	16.34	5.74	0.05
SCI	15.06	6.53	15.09	6.29	0.00
COE	8.93	3.82	9.51	3.72	0.15
WIC	10.14	3.98	10.55	3.78	0.10
EOI	12.52	5.29	13.24	5.05	0.14
SEC	10.93	4.12	11.57	3.95	0.16
HOA	6.31	3.36	5.97	3.07	−0.11
PSD	7.97	3.08	7.43	2.79	−0.18
PAM	4.94	2.88	4.65	2.67	−0.10

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.11.5: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 2

PSAT/NMSQT and PSAT 10 Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	22.72	8.34	23.30	7.99	0.07
WL	20.97	8.07	22.89	8.04	0.24
MTS	19.99	9.33	19.20	8.48	−0.09
HSS	14.78	5.80	14.96	5.45	0.03
SCI	15.86	6.64	16.13	6.28	0.04
COE	8.02	3.58	8.56	3.47	0.15
WIC	9.40	3.86	10.06	3.75	0.17
EOI	11.67	5.11	12.79	4.98	0.22
SEC	9.30	3.54	10.09	3.64	0.22
HOA	6.86	3.74	6.67	3.38	−0.05
PSD	7.68	3.64	7.16	3.41	−0.15
PAM	4.79	2.70	4.72	2.50	−0.03

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table 6.11.6: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	21.55	8.17	22.23	8.13	0.08
WL	19.89	7.79	21.46	7.43	0.21
MTS	15.34	6.84	15.07	6.41	−0.04
HSS	13.08	5.52	13.61	5.37	0.10
SCI	13.15	6.33	13.49	6.25	0.05
COE	8.47	3.58	9.11	3.60	0.18
WIC	10.46	4.17	10.97	4.01	0.12
EOI	11.97	5.20	12.95	5.02	0.19
SEC	7.92	3.12	8.51	2.96	0.19
HOA	5.80	3.10	5.77	2.94	−0.01
PSD	7.39	3.13	7.22	2.96	−0.06

Note: Std. Diff. = standardized difference for female group mean - male group mean.

Table A-6.11.7: Raw Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT 8/9 Form 2

PSAT 8/9 Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	22.51	7.53	24.08	7.18	0.21
WL	20.46	7.53	22.41	7.19	0.26
MTS	16.67	6.86	16.27	6.27	−0.06
HSS	14.77	5.26	15.57	4.90	0.16
SCI	13.40	5.13	13.83	4.86	0.09
COE	8.82	3.64	9.67	3.62	0.23
WIC	9.84	3.71	10.43	3.53	0.16
EOI	11.01	4.68	11.96	4.60	0.20
SEC	9.45	3.41	10.45	3.15	0.30
HOA	6.48	3.09	6.39	2.86	−0.03
PSD	8.08	3.20	7.77	2.94	−0.10

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.12.1: Scale Score Correlations and Moments by Score Tier for SAT Form 1

SAT Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Reading	1.00	0.94	0.81	1.00	1.00	1.00	1.00	0.95	0.91	0.80	0.85	0.74	1.00	0.81	0.97
W&L	0.82	1.00	0.83	0.99	0.97	1.00	1.00	1.00	1.00	0.82	0.86	0.77	1.00	0.83	0.99
MathT	0.73	0.74	1.00	0.90	0.93	0.85	0.82	0.83	0.82	1.00	1.00	1.00	0.83	1.00	1.00
HSS	0.91	0.84	0.78	1.00	0.98	1.00	1.00	1.00	0.94	0.89	0.98	0.81	1.00	0.90	1.00
SCI	0.90	0.82	0.81	0.81	1.00	1.00	1.00	0.99	0.92	0.92	0.95	0.86	1.00	0.93	1.00
COE	0.86	0.83	0.69	0.82	0.82	1.00	1.00	1.00	0.96	0.84	0.88	0.78	1.00	0.85	1.00
WIC	0.82	0.82	0.66	0.80	0.78	0.71	1.00	1.00	0.96	0.81	0.86	0.75	1.00	0.82	0.98
EOI	0.78	0.94	0.70	0.81	0.80	0.83	0.83	1.00	0.98	0.82	0.86	0.77	1.00	0.83	0.99
SEC	0.74	0.92	0.68	0.74	0.73	0.70	0.70	0.75	1.00	0.81	0.84	0.75	1.00	0.82	0.97
HOA	0.67	0.68	0.91	0.71	0.74	0.63	0.60	0.64	0.63	1.00	0.97	0.94	0.83	1.00	1.00
PSD	0.69	0.70	0.89	0.77	0.75	0.65	0.63	0.66	0.63	0.74	1.00	0.90	0.87	1.00	1.00
PAM	0.59	0.61	0.87	0.62	0.67	0.56	0.53	0.57	0.56	0.71	0.67	1.00	0.77	1.00	0.96
ERW	0.95	0.96	0.77	0.91	0.90	0.88	0.86	0.91	0.87	0.71	0.73	0.63	1.00	0.83	0.99
MathS	0.73	0.74	1.00	0.78	0.81	0.69	0.66	0.70	0.68	0.91	0.89	0.87	0.77	1.00	1.00
TOTAL	0.89	0.90	0.94	0.90	0.91	0.83	0.80	0.85	0.82	0.86	0.86	0.80	0.94	0.94	1.00
N	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904	216,904
Mean	28.21	28.07	27.92	28.32	28.37	9.53	9.71	9.86	9.19	9.36	9.43	9.42	562.76	558.32	1121.08
SD	4.85	5.04	5.04	4.82	4.92	2.43	2.55	2.59	2.85	2.51	3.09	2.81	94.37	100.83	183.62
Skewness	−0.03	−0.19	0.03	−0.25	−0.03	−0.06	−0.49	−0.35	−0.09	0.04	−0.22	−0.04	−0.10	0.03	−0.02
Kurtosis	−0.35	−0.44	−0.40	−0.05	−0.46	−0.37	0.26	−0.16	−0.44	−0.16	−0.49	−0.46	−0.47	−0.40	−0.49

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.2: Scale Score Correlations and Moments by Score Tier for SAT Form 2

SAT Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Reading	1.00	0.93	0.80	1.00	1.00	1.00	1.00	0.95	0.90	0.80	0.83	0.76	1.00	0.80	0.97
W&L	0.80	1.00	0.81	0.98	0.97	1.00	1.00	1.00	1.00	0.81	0.83	0.77	1.00	0.81	0.99
MathT	0.72	0.71	1.00	0.89	0.90	0.84	0.81	0.81	0.79	1.00	1.00	1.00	0.82	1.00	1.00
HSS	0.90	0.81	0.77	1.00	0.97	1.00	1.00	1.00	0.92	0.89	0.93	0.83	1.00	0.89	1.00
SCI	0.91	0.82	0.79	0.80	1.00	1.00	1.00	1.00	0.91	0.89	0.96	0.84	1.00	0.90	1.00
COE	0.84	0.81	0.68	0.81	0.82	1.00	0.99	1.00	0.94	0.84	0.87	0.80	1.00	0.84	1.00
WIC	0.80	0.80	0.63	0.79	0.78	0.68	1.00	1.00	0.96	0.80	0.84	0.76	1.00	0.81	0.98
EOI	0.76	0.93	0.67	0.78	0.80	0.82	0.80	1.00	0.98	0.81	0.84	0.77	1.00	0.81	0.99
SEC	0.71	0.90	0.64	0.70	0.70	0.67	0.66	0.71	1.00	0.79	0.80	0.76	1.00	0.79	0.96
HOA	0.65	0.65	0.92	0.70	0.71	0.62	0.57	0.61	0.58	1.00	0.96	0.99	0.82	1.00	1.00
PSD	0.68	0.67	0.88	0.74	0.77	0.65	0.60	0.64	0.59	0.74	1.00	0.91	0.85	1.00	1.00
PAM	0.62	0.62	0.90	0.65	0.67	0.59	0.55	0.58	0.56	0.75	0.70	1.00	0.78	1.00	0.98
ERW	0.95	0.95	0.75	0.90	0.91	0.87	0.85	0.90	0.85	0.68	0.71	0.65	1.00	0.82	1.00
MathS	0.72	0.71	1.00	0.77	0.79	0.68	0.63	0.67	0.64	0.92	0.88	0.90	0.75	1.00	1.00
TOTAL	0.89	0.88	0.94	0.89	0.90	0.83	0.79	0.83	0.79	0.86	0.85	0.83	0.93	0.94	1.00
N	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649	289,649
Mean	27.66	27.46	27.01	27.51	27.65	9.33	9.44	9.46	8.93	9.07	9.14	8.91	551.17	540.21	1091.38
SD	4.75	4.89	4.82	4.69	4.68	2.42	2.50	2.53	2.88	2.41	2.79	2.81	91.44	96.31	175.78
Skewness	−0.04	−0.11	0.05	−0.11	−0.06	0.04	−0.29	−0.09	0.05	−0.12	−0.30	−0.02	−0.03	0.05	0.01
Kurtosis	−0.29	−0.37	−0.38	−0.08	−0.30	−0.33	−0.21	−0.27	−0.51	−0.07	−0.01	−0.43	−0.39	−0.38	−0.42

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.3: Scale Score Correlations and Moments by Score Tier for SAT Form 3

SAT Form 3	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	Total
Reading	1.00	0.93	0.80	1.00	1.00	1.00	1.00	0.94	0.88	0.80	0.84	0.74	1.00	0.80	0.96
W&L	0.81	1.00	0.82	0.98	0.95	1.00	1.00	1.00	1.00	0.82	0.85	0.77	1.00	0.82	0.99
MathT	0.72	0.73	1.00	0.92	0.90	0.85	0.80	0.81	0.81	1.00	1.00	1.00	0.83	1.00	1.00
HSS	0.90	0.82	0.80	1.00	0.96	1.00	1.00	1.00	0.91	0.89	0.97	0.85	1.00	0.92	1.00
SCI	0.90	0.80	0.79	0.80	1.00	1.00	0.99	0.98	0.88	0.93	0.89	0.84	1.00	0.90	1.00
COE	0.85	0.81	0.67	0.82	0.80	1.00	0.97	1.00	0.93	0.84	0.87	0.79	1.00	0.85	1.00
WIC	0.81	0.82	0.65	0.78	0.77	0.68	1.00	1.00	0.92	0.79	0.84	0.73	1.00	0.80	0.97
EOI	0.76	0.93	0.67	0.79	0.77	0.80	0.83	1.00	0.95	0.80	0.84	0.75	1.00	0.81	0.98
SEC	0.73	0.91	0.68	0.73	0.71	0.68	0.69	0.72	1.00	0.80	0.82	0.76	1.00	0.81	0.95
HOA	0.66	0.67	0.92	0.71	0.75	0.62	0.59	0.61	0.63	1.00	0.94	0.98	0.82	1.00	1.00
PSD	0.70	0.69	0.88	0.78	0.72	0.64	0.63	0.64	0.64	0.74	1.00	0.89	0.86	1.00	1.00
PAM	0.59	0.60	0.88	0.65	0.66	0.55	0.53	0.55	0.57	0.73	0.67	1.00	0.63	0.88	0.80
ERW	0.95	0.95	0.77	0.91	0.89	0.87	0.86	0.89	0.87	0.70	0.73	0.63	1.00	0.83	0.99
MathS	0.72	0.73	1.00	0.80	0.79	0.67	0.65	0.67	0.68	0.92	0.88	0.88	0.77	1.00	1.00
Total	0.89	0.89	0.94	0.91	0.89	0.82	0.80	0.83	0.82	0.86	0.86	0.80	0.94	0.94	1.00
N	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672	325,672
Mean	27.83	27.47	27.30	27.69	27.80	9.27	9.42	9.55	8.83	9.24	9.06	9.11	552.94	545.98	1098.92
SD	4.76	4.94	4.89	4.78	4.85	2.40	2.83	2.67	2.88	2.49	2.86	2.73	92.27	97.86	178.64
Skewness	−0.05	−0.08	0.13	−0.13	−0.06	0.03	−0.40	−0.21	0.06	−0.02	−0.23	0.09	−0.05	0.13	0.04
Kurtosis	−0.29	−0.42	−0.29	−0.18	−0.37	−0.50	−0.17	−0.47	−0.46	−0.25	−0.20	−0.01	−0.43	−0.29	−0.40

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.4: Scale Score Correlations and Moments by Score Tier for PSAT/NMSQT and PSAT 10 Form 1

PSAT/ NMSQT and PSAT 10 Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Reading	1.00	0.94	0.79	1.00	1.00	1.00	1.00	0.95	0.92	0.75	0.81	0.70	1.00	0.79	0.97
W&L	0.82	1.00	0.81	0.99	0.97	1.00	1.00	1.00	1.00	0.77	0.83	0.72	1.00	0.81	0.98
MathT	0.69	0.72	1.00	0.88	0.88	0.82	0.79	0.82	0.81	1.00	1.00	1.00	0.81	1.00	1.00
HSS	0.90	0.84	0.75	1.00	0.97	1.00	1.00	1.00	0.94	0.82	0.95	0.76	1.00	0.88	1.00
SCI	0.91	0.84	0.76	0.81	1.00	1.00	1.00	1.00	0.93	0.85	0.90	0.77	1.00	0.88	1.00
COE	0.86	0.84	0.67	0.84	0.82	1.00	0.99	1.00	0.96	0.78	0.84	0.73	1.00	0.82	1.00
WIC	0.87	0.86	0.66	0.84	0.83	0.76	1.00	1.00	0.97	0.75	0.82	0.70	1.00	0.79	0.97
EOI	0.80	0.95	0.70	0.83	0.83	0.85	0.85	1.00	0.99	0.78	0.83	0.73	1.00	0.82	0.98
SEC	0.75	0.92	0.67	0.75	0.75	0.73	0.75	0.78	1.00	0.78	0.82	0.73	1.00	0.81	0.98
HOA	0.61	0.63	0.89	0.65	0.68	0.59	0.57	0.62	0.59	1.00	0.90	0.90	0.77	1.00	0.97
PSD	0.64	0.66	0.87	0.73	0.71	0.62	0.62	0.64	0.61	0.67	1.00	0.85	0.83	1.00	1.00
PAM	0.54	0.56	0.83	0.57	0.58	0.52	0.51	0.55	0.53	0.64	0.59	1.00	0.73	1.00	0.93
ERW	0.95	0.96	0.74	0.91	0.91	0.89	0.90	0.92	0.88	0.65	0.68	0.58	1.00	0.81	0.99
MathS	0.69	0.72	1.00	0.75	0.76	0.67	0.66	0.70	0.67	0.89	0.87	0.83	0.74	1.00	1.00
TOTAL	0.89	0.90	0.93	0.90	0.90	0.84	0.84	0.87	0.83	0.82	0.83	0.75	0.94	0.93	1.00
N	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383	3,156,383
Mean	24.54	24.22	24.20	24.43	24.43	8.47	8.40	8.47	8.38	8.07	8.31	8.25	487.60	483.98	971.57
SD	5.23	5.43	4.86	5.20	5.23	2.61	2.91	2.56	2.65	3.09	2.55	2.82	101.71	97.16	185.47
Skewness	0.23	0.06	0.41	0.15	0.32	0.11	0.15	0.31	0.14	0.51	0.18	0.02	0.20	0.41	0.36
Kurtosis	−0.56	−0.58	0.00	−0.42	−0.32	−0.32	−0.57	−0.19	−0.28	−0.33	0.15	0.25	−0.60	0.00	−0.34

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.5: Scale Score Correlations and Moments by Score Tier for PSAT/NMSQT and PSAT 10 Form 2

PSAT/NMSQT and PSAT 10 Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	ERW	MSS	TOTAL
Reading	1.00	0.93	0.82	1.00	1.00	1.00	1.00	0.94	0.89	0.81	0.83	0.71	1.00	0.82	0.98
W&L	0.80	1.00	0.82	0.97	0.96	1.00	1.00	1.00	1.00	0.81	0.82	0.71	1.00	0.82	0.99
MathT	0.72	0.72	1.00	0.91	0.92	0.85	0.80	0.83	0.80	1.00	1.00	1.00	0.83	1.00	1.00
HSS	0.89	0.81	0.78	1.00	0.96	1.00	1.00	1.00	0.91	0.89	0.95	0.78	1.00	0.91	1.00
SCI	0.90	0.82	0.79	0.80	1.00	1.00	0.99	0.99	0.90	0.91	0.92	0.82	1.00	0.92	1.00
COE	0.85	0.81	0.68	0.80	0.82	1.00	0.97	1.00	0.93	0.85	0.86	0.75	1.00	0.85	1.00
WIC	0.84	0.85	0.66	0.81	0.80	0.72	1.00	1.00	0.94	0.78	0.81	0.68	1.00	0.80	0.97
EOI	0.79	0.94	0.70	0.81	0.82	0.83	0.85	1.00	0.97	0.82	0.83	0.73	1.00	0.83	0.99
SEC	0.69	0.90	0.63	0.69	0.69	0.66	0.69	0.73	1.00	0.79	0.79	0.71	1.00	0.80	0.97
HOA	0.65	0.66	0.90	0.70	0.73	0.62	0.60	0.64	0.57	1.00	0.94	0.92	0.82	1.00	1.00
PSD	0.68	0.67	0.89	0.76	0.74	0.63	0.63	0.66	0.58	0.72	1.00	0.83	0.84	1.00	1.00
PAM	0.54	0.55	0.82	0.58	0.62	0.52	0.49	0.54	0.49	0.66	0.60	1.00	0.73	1.00	0.92
ERW	0.95	0.95	0.75	0.89	0.91	0.87	0.89	0.91	0.84	0.69	0.71	0.57	1.00	0.83	1.00
MathS	0.72	0.72	1.00	0.78	0.79	0.68	0.66	0.70	0.63	0.90	0.89	0.82	0.75	1.00	1.00
TOTAL	0.89	0.89	0.93	0.89	0.91	0.83	0.83	0.86	0.79	0.85	0.85	0.74	0.94	0.93	1.00
N	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890	228,890
Mean	24.15	23.45	23.49	23.95	23.95	8.21	8.11	8.13	8.11	7.89	8.18	7.66	475.95	469.73	945.67
SD	4.79	5.11	4.48	4.78	4.92	2.43	2.85	2.52	2.50	2.81	2.49	2.68	94.02	89.59	172.00
Skewness	0.35	0.19	0.57	0.35	0.55	0.33	0.11	0.51	0.21	0.61	0.26	0.53	0.32	0.57	0.48
Kurtosis	−0.44	−0.58	0.23	−0.22	−0.10	−0.24	−0.51	−0.10	−0.05	0.15	0.00	0.54	−0.55	0.23	−0.24

Note: The values above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.6: Scale Score Correlations and Moments by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	ERW	MSS	TOTAL
Reading	1.00	0.93	0.80	1.00	1.00	1.00	1.00	0.94	0.90	0.79	0.79	1.00	0.80	0.98
W&L	0.80	1.00	0.81	0.99	0.97	1.00	1.00	1.00	1.00	0.80	0.79	1.00	0.81	1.00
MathT	0.69	0.69	1.00	0.89	0.88	0.83	0.80	0.81	0.80	1.00	1.00	0.82	1.00	1.00
HSS	0.89	0.83	0.75	1.00	0.97	1.00	1.00	1.00	0.94	0.88	0.89	1.00	0.89	1.00
SCI	0.90	0.81	0.73	0.80	1.00	1.00	1.00	0.99	0.93	0.83	0.88	1.00	0.88	1.00
COE	0.85	0.83	0.65	0.83	0.81	1.00	0.99	1.00	0.95	0.81	0.81	1.00	0.83	1.00
WIC	0.87	0.86	0.67	0.83	0.84	0.76	1.00	1.00	0.97	0.78	0.78	1.00	0.80	0.98
EOI	0.79	0.95	0.67	0.82	0.80	0.85	0.87	1.00	1.00	0.80	0.79	1.00	0.81	0.99
SEC	0.68	0.89	0.59	0.69	0.68	0.66	0.71	0.73	1.00	0.79	0.77	1.00	0.80	0.98
HOA	0.62	0.63	0.88	0.68	0.64	0.59	0.60	0.61	0.54	1.00	0.90	0.81	1.00	1.00
PSD	0.63	0.63	0.89	0.70	0.69	0.60	0.61	0.62	0.54	0.66	1.00	0.80	1.00	1.00
ERW	0.95	0.95	0.73	0.91	0.90	0.89	0.91	0.92	0.83	0.66	0.67	1.00	0.82	1.00
MathS	0.69	0.69	1.00	0.75	0.73	0.65	0.67	0.67	0.59	0.88	0.89	0.73	1.00	1.00
TOTAL	0.88	0.89	0.92	0.89	0.88	0.83	0.85	0.86	0.77	0.83	0.83	0.93	0.92	1.00
N	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262	218,262
Mean	21.70	20.96	21.00	21.06	21.42	7.55	7.49	7.53	7.31	7.39	7.73	426.64	420.00	846.64
SD	4.53	4.82	4.17	4.79	4.90	2.67	3.39	2.77	3.19	2.56	2.66	88.81	83.35	160.02
Skewness	0.42	0.32	0.31	0.37	0.20	0.10	0.20	0.15	0.21	0.59	0.50	0.40	0.31	0.43
Kurtosis	−0.18	−0.39	0.44	0.02	0.12	−0.30	−0.64	−0.45	−0.39	0.37	0.10	−0.38	0.44	−0.11

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

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Table A-6.12.7: Scale Score Correlations and Moments by Score Tier for PSAT 8/9 Form 2

PSAT 8/9 Form 2	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	ERW	MSS	TOTAL
Reading	1.00	0.92	0.81	1.00	1.00	1.00	1.00	0.93	0.87	0.79	0.80	1.00	0.81	0.99
W&L	0.79	1.00	0.82	0.97	0.99	1.00	1.00	1.00	1.00	0.80	0.81	1.00	0.82	0.99
MathT	0.69	0.70	1.00	0.90	0.93	0.84	0.81	0.82	0.78	1.00	1.00	0.83	1.00	1.00
HSS	0.88	0.81	0.74	1.00	0.96	1.00	1.00	1.00	0.89	0.88	0.91	1.00	0.90	1.00
SCI	0.87	0.79	0.75	0.75	1.00	1.00	1.00	1.00	0.89	0.87	0.96	1.00	0.93	1.00
COE	0.84	0.82	0.66	0.80	0.80	1.00	0.96	1.00	0.92	0.82	0.83	1.00	0.84	1.00
WIC	0.83	0.83	0.64	0.80	0.78	0.71	1.00	1.00	0.93	0.78	0.80	1.00	0.81	0.98
EOI	0.75	0.94	0.66	0.79	0.78	0.82	0.83	1.00	0.96	0.80	0.81	1.00	0.82	0.99
SEC	0.69	0.89	0.62	0.68	0.67	0.68	0.70	0.73	1.00	0.76	0.77	1.00	0.78	0.95
HOA	0.62	0.63	0.90	0.68	0.65	0.60	0.58	0.60	0.56	1.00	0.93	0.81	1.00	1.00
PSD	0.63	0.64	0.89	0.69	0.72	0.61	0.59	0.61	0.57	0.68	1.00	0.82	1.00	1.00
ERW	0.94	0.95	0.73	0.89	0.88	0.88	0.88	0.90	0.84	0.67	0.67	1.00	0.83	1.00
MathS	0.69	0.70	1.00	0.74	0.75	0.66	0.64	0.66	0.62	0.90	0.89	0.73	1.00	1.00
TOTAL	0.88	0.89	0.93	0.88	0.87	0.83	0.82	0.84	0.79	0.84	0.84	0.93	0.93	1.00
N	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918	148,918
Mean	22.89	21.82	21.77	22.00	22.66	8.10	8.39	8.02	8.02	7.83	7.92	447.04	435.44	882.48
SD	4.32	4.66	4.07	4.54	4.41	2.63	3.28	2.78	3.29	2.58	2.73	84.84	81.36	154.72
Skewness	0.29	0.25	0.33	0.49	0.44	0.04	−0.07	0.06	−0.10	0.57	0.38	0.28	0.33	0.34
Kurtosis	−0.35	−0.43	0.29	0.03	−0.16	−0.43	−0.70	−0.64	−0.67	0.25	−0.16	−0.48	0.29	−0.22

Note: The correlations above the diagonal represent the true score correlations, and the correlations below the diagonal represent the observed score correlations.

Table A-6.13.1: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 1

	White		Black			Hispanic			Asian		
SAT Form 1 Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	29.36	4.41	24.63	4.50	-1.07	26.55	4.63	-0.63	29.02	4.91	-0.08
WL	29.25	4.51	24.21	4.82	-1.10	26.30	4.82	-0.64	29.25	5.11	0.00
MTS	28.93	4.51	23.73	4.37	-1.16	25.99	4.55	-0.65	30.81	5.13	0.41
HSS	29.40	4.32	24.94	4.74	-1.01	26.58	4.67	-0.64	29.55	4.86	0.03
SCI	29.54	4.47	24.40	4.42	-1.15	26.62	4.58	-0.65	29.73	4.90	0.04
COE	10.07	2.24	7.81	2.25	-1.01	8.75	2.30	-0.58	9.98	2.45	-0.04
WIC	10.31	2.22	7.93	2.68	-1.03	8.82	2.57	-0.64	10.10	2.59	-0.09
EOI	10.43	2.32	7.96	2.61	-1.04	9.00	2.51	-0.60	10.53	2.59	0.04
SEC	9.82	2.62	7.22	2.65	-0.99	8.29	2.74	-0.58	9.68	2.92	-0.05
HOA	9.81	2.31	7.57	2.21	-0.98	8.49	2.30	-0.57	10.59	2.62	0.33
PSD	10.13	2.76	6.96	2.87	-1.14	8.24	2.92	-0.68	10.70	3.03	0.20
PAM	9.79	2.66	7.51	2.46	-0.87	8.59	2.58	-0.46	11.12	2.74	0.50
ERW	586.13	84.35	488.40	87.91	-1.15	528.57	89.58	-0.67	582.65	95.86	-0.04
MSS	578.59	90.22	474.63	87.36	-1.16	519.80	91.00	-0.65	616.25	102.52	0.41
Total	1164.73	162.42	963.03	163.20	-1.24	1048.37	168.85	-0.71	1198.89	184.23	0.21

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SAT Form 1 Score	White		Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	29.36	4.41	26.15	4.72	-0.73	26.50	4.92	-0.65	29.03	4.74	-0.08
WL	29.25	4.51	25.90	5.02	-0.74	26.11	4.99	-0.70	28.95	4.93	-0.07
MTS	28.93	4.51	25.89	5.03	-0.67	25.86	4.76	-0.68	28.64	5.05	-0.06
HSS	29.40	4.32	26.19	4.76	-0.74	26.52	4.92	-0.67	29.13	4.70	-0.06
SCI	29.54	4.47	26.29	4.82	-0.73	26.61	4.83	-0.66	29.16	4.88	-0.08
COE	10.07	2.24	8.61	2.38	-0.65	8.68	2.43	-0.62	9.91	2.40	-0.07
WIC	10.31	2.22	8.69	2.65	-0.73	8.78	2.68	-0.69	10.16	2.44	-0.07
EOI	10.43	2.32	8.74	2.54	-0.73	8.90	2.62	-0.66	10.30	2.53	-0.06
SEC	9.82	2.62	8.10	2.88	-0.66	8.14	2.80	-0.64	9.63	2.79	-0.07
HOA	9.81	2.31	8.40	2.44	-0.61	8.38	2.40	-0.62	9.68	2.52	-0.06
PSD	10.13	2.76	8.17	3.20	-0.71	8.44	3.05	-0.61	9.84	3.06	-0.10
PAM	9.79	2.66	8.58	2.75	-0.46	8.30	2.62	-0.56	9.76	2.84	-0.01
ERW	586.13	84.35	520.43	92.47	-0.78	526.12	93.90	-0.71	579.79	92.23	-0.07
MSS	578.59	90.22	517.86	100.59	-0.67	517.19	95.30	-0.68	572.82	101.09	-0.06
Total	1164.73	162.42	1038.30	183.87	-0.78	1043.31	176.64	-0.75	1152.61	182.05	-0.07

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.13.2: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 2

	White		Black			Hispanic			Asian		
SAT Form 2 Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	28.97	4.31	24.62	4.43	-1.00	25.92	4.54	-0.70	28.03	4.79	-0.21
WL	28.79	4.45	24.35	4.66	-0.99	25.66	4.65	-0.69	28.02	4.91	-0.17
MTS	28.16	4.31	23.58	4.29	-1.06	25.11	4.47	-0.70	29.59	5.05	0.32
HSS	28.69	4.24	24.58	4.57	-0.96	25.84	4.50	-0.66	28.45	4.75	-0.05
SCI	29.04	4.21	24.37	4.33	-1.10	25.81	4.47	-0.75	28.29	4.51	-0.18
COE	9.98	2.24	7.86	2.23	-0.95	8.49	2.30	-0.66	9.50	2.46	-0.21
WIC	10.10	2.25	7.96	2.47	-0.93	8.56	2.44	-0.66	9.64	2.52	-0.20
EOI	10.12	2.33	7.95	2.40	-0.93	8.57	2.41	-0.66	9.71	2.55	-0.17
SEC	9.61	2.72	7.33	2.69	-0.84	8.01	2.71	-0.59	9.28	2.89	-0.12
HOA	9.57	2.21	7.54	2.25	-0.92	8.23	2.28	-0.60	10.28	2.45	0.31
PSD	9.88	2.44	7.19	2.73	-1.08	8.07	2.73	-0.71	10.11	2.79	0.09
PAM	9.43	2.62	7.25	2.55	-0.84	7.99	2.65	-0.54	10.47	2.87	0.39
ERW	577.66	82.35	489.75	84.95	-1.06	515.81	86.35	-0.74	560.57	92.12	-0.20
MSS	563.20	86.23	471.53	85.83	-1.06	502.28	89.43	-0.70	591.84	101.09	0.32
Total	1140.86	156.19	961.29	159.07	-1.15	1018.09	163.98	-0.77	1152.42	176.46	0.07

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SAT Form 2 Score	White		Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	28.97	4.31	26.03	4.35	-0.68	26.29	4.83	-0.62	28.43	4.62	-0.13
WL	28.79	4.45	25.69	4.51	-0.70	26.01	5.01	-0.63	28.21	4.79	-0.13
MTS	28.16	4.31	25.73	4.52	-0.56	25.70	4.71	-0.57	27.56	4.69	-0.14
HSS	28.69	4.24	26.02	4.39	-0.63	26.21	4.75	-0.58	28.23	4.57	-0.11
SCI	29.04	4.21	26.04	4.22	-0.71	26.31	4.77	-0.65	28.35	4.60	-0.16
COE	9.98	2.24	8.51	2.33	-0.65	8.74	2.44	-0.55	9.69	2.37	-0.13
WIC	10.10	2.25	8.65	2.44	-0.64	8.77	2.57	-0.59	9.80	2.43	-0.13
EOI	10.12	2.33	8.57	2.37	-0.66	8.80	2.57	-0.57	9.84	2.49	-0.12
SEC	9.61	2.72	8.04	2.67	-0.58	8.12	2.90	-0.55	9.32	2.85	-0.11
HOA	9.57	2.21	8.45	2.43	-0.51	8.46	2.39	-0.51	9.33	2.34	-0.11
PSD	9.88	2.44	8.39	2.59	-0.61	8.51	2.77	-0.56	9.46	2.68	-0.17
PAM	9.43	2.62	8.32	2.67	-0.42	8.22	2.80	-0.46	9.17	2.80	-0.10
ERW	577.66	82.35	517.19	83.26	-0.73	522.99	93.81	-0.66	566.43	89.06	-0.14
MSS	563.20	86.23	514.52	90.34	-0.56	514.07	94.11	-0.57	551.21	93.82	-0.14
Total	1140.86	156.19	1031.70	162.68	-0.70	1037.06	175.77	-0.66	1117.64	171.17	-0.15

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.13.3: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for SAT Form 3

	White		Black			Hispanic			Asian		
SAT Form 3 Score	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	29.18	4.29	25.08	4.59	-0.94	26.10	4.59	-0.70	28.52	4.79	-0.15
WL	28.89	4.48	24.72	4.72	-0.92	25.62	4.66	-0.72	28.16	5.13	-0.16
MTS	28.52	4.40	23.95	4.29	-1.04	25.40	4.46	-0.71	29.84	5.16	0.29
HSS	29.00	4.27	24.88	4.60	-0.95	25.93	4.63	-0.70	28.82	4.86	-0.04
SCI	29.17	4.38	24.71	4.52	-1.01	25.96	4.58	-0.72	29.11	4.82	-0.01
COE	9.87	2.23	7.99	2.28	-0.84	8.50	2.28	-0.60	9.63	2.44	-0.10
WIC	10.19	2.51	8.08	2.90	-0.82	8.38	2.81	-0.69	9.74	2.89	-0.17
EOI	10.24	2.45	8.22	2.61	-0.81	8.63	2.56	-0.64	9.93	2.77	-0.12
SEC	9.63	2.69	7.30	2.70	-0.87	7.82	2.70	-0.67	9.14	2.93	-0.18
HOA	9.77	2.32	7.73	2.27	-0.88	8.40	2.31	-0.59	10.46	2.53	0.29
PSD	9.91	2.50	7.15	2.72	-1.09	7.90	2.77	-0.77	9.95	2.85	0.02
PAM	9.56	2.58	7.57	2.47	-0.78	8.32	2.51	-0.49	10.62	2.88	0.40
ERW	580.70	82.60	498.02	87.61	-0.99	517.22	87.34	-0.75	566.84	94.53	-0.16
MSS	570.41	87.98	479.10	85.72	-1.04	508.06	89.19	-0.71	596.89	103.21	0.29
Total	1151.11	158.59	977.12	161.94	-1.09	1025.28	165.33	-0.78	1163.73	183.23	0.08

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SAT Form 3 Score	White		Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	29.18	4.29	26.10	4.47	-0.72	26.56	4.58	-0.61	28.67	4.56	-0.12
WL	28.89	4.48	25.46	4.54	-0.77	25.79	4.83	-0.69	28.27	4.68	-0.14
MTS	28.52	4.40	25.68	4.58	-0.65	25.78	4.57	-0.62	27.82	4.73	-0.16
HSS	29.00	4.27	25.91	4.57	-0.73	26.35	4.58	-0.62	28.46	4.54	-0.13
SCI	29.17	4.38	26.04	4.53	-0.71	26.46	4.62	-0.62	28.53	4.71	-0.15
COE	9.87	2.23	8.46	2.28	-0.63	8.61	2.27	-0.56	9.63	2.34	-0.11
WIC	10.19	2.51	8.40	2.71	-0.71	8.71	2.85	-0.59	9.87	2.63	-0.13
EOI	10.24	2.45	8.53	2.51	-0.70	8.78	2.63	-0.59	9.97	2.55	-0.11
SEC	9.63	2.69	7.74	2.65	-0.70	7.87	2.77	-0.65	9.22	2.77	-0.15
HOA	9.77	2.32	8.50	2.33	-0.55	8.52	2.38	-0.54	9.46	2.44	-0.13
PSD	9.91	2.50	8.03	2.80	-0.75	8.30	2.74	-0.64	9.41	2.70	-0.20
PAM	9.56	2.58	8.46	2.66	-0.43	8.26	2.59	-0.50	9.33	2.69	-0.09
ERW	580.70	82.60	515.54	84.40	-0.79	523.51	88.69	-0.69	569.37	87.39	-0.14
MSS	570.41	87.98	513.62	91.62	-0.65	515.51	91.33	-0.62	556.41	94.52	-0.16
Total	1151.11	158.59	1029.16	166.56	-0.77	1039.02	168.17	-0.71	1125.78	170.36	-0.16

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.13.4: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 1

P/N and PSAT 10 Form 1 Score	White		Black			Hispanic			Asian			Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	26.36	4.88	21.93	4.46	-0.92	22.54	4.64	-0.80	26.26	5.53	-0.02	22.83	4.66	-0.72	22.61	4.68	-0.77	25.35	5.11	-0.21
WL	26.10	4.93	21.42	4.70	-0.96	22.04	4.88	-0.83	26.60	5.56	0.10	22.51	4.96	-0.73	21.93	4.98	-0.85	25.02	5.22	-0.22
MTS	25.49	4.48	21.54	3.86	-0.91	22.36	4.07	-0.72	28.26	5.56	0.60	22.79	4.42	-0.60	22.40	4.20	-0.69	24.54	4.74	-0.21
HSS	26.20	4.77	21.88	4.48	-0.92	22.32	4.68	-0.82	26.64	5.40	0.09	22.71	4.78	-0.73	22.45	4.72	-0.79	25.24	5.04	-0.20
SCI	26.25	4.90	21.55	4.30	-0.98	22.35	4.51	-0.82	26.73	5.49	0.10	22.79	4.60	-0.71	22.62	4.58	-0.74	25.07	5.17	-0.24
COE	9.30	2.46	7.26	2.27	-0.84	7.53	2.35	-0.73	9.41	2.69	0.04	7.67	2.35	-0.66	7.53	2.40	-0.72	8.85	2.54	-0.18
WIC	9.44	2.69	6.97	2.53	-0.93	7.26	2.61	-0.82	9.21	3.02	-0.09	7.57	2.67	-0.70	7.34	2.69	-0.78	8.90	2.81	-0.20
EOI	9.32	2.42	7.20	2.14	-0.90	7.49	2.23	-0.78	9.52	2.71	0.08	7.70	2.27	-0.67	7.51	2.29	-0.75	8.84	2.50	-0.20
SEC	9.19	2.48	7.16	2.30	-0.83	7.42	2.39	-0.72	9.54	2.75	0.14	7.62	2.44	-0.63	7.29	2.41	-0.77	8.71	2.58	-0.19
HOA	8.74	3.02	6.61	2.40	-0.73	7.06	2.59	-0.59	10.53	3.51	0.58	7.28	2.78	-0.48	7.07	2.66	-0.55	8.21	3.08	-0.17
PSD	9.01	2.38	7.02	2.21	-0.85	7.42	2.24	-0.68	9.84	2.81	0.34	7.53	2.39	-0.62	7.45	2.38	-0.66	8.52	2.49	-0.20
PAM	8.73	2.66	7.12	2.48	-0.62	7.42	2.54	-0.50	10.48	3.12	0.64	7.73	2.62	-0.38	7.43	2.54	-0.49	8.37	2.78	-0.14
ERW	524.63	93.04	433.48	85.43	-1.00	445.78	89.49	-0.86	528.56	106.42	0.04	453.33	90.70	-0.77	445.41	91.07	-0.85	503.71	98.34	-0.22
MSS	509.77	89.59	430.84	77.22	-0.91	447.18	81.39	-0.72	565.26	111.25	0.60	455.77	88.42	-0.60	448.02	83.96	-0.69	490.74	94.81	-0.21
Total	1034.40	169.11	864.32	147.73	-1.03	892.96	156.66	-0.86	1093.82	200.28	0.34	909.10	165.96	-0.74	893.42	161.25	-0.83	994.45	180.15	-0.24

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

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Table A-6.13.5: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 2

P/N and PSAT 10 Form 2 Score	White		Black			Hispanic			Asian			Hawaiian			AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	25.32	4.61	21.27	3.90	−0.90	22.40	4.20	−0.65	26.22	5.27	0.19	23.23	4.41	−0.45	21.92	4.09	−0.74	24.54	4.70	−0.17
WL	24.69	4.89	20.46	4.29	−0.88	21.61	4.50	−0.64	25.78	5.56	0.22	22.54	4.64	−0.44	20.82	4.37	−0.79	23.75	4.99	−0.19
MTS	24.38	4.29	20.68	3.27	−0.89	21.92	3.66	−0.60	27.65	5.46	0.74	22.49	4.08	−0.44	21.32	3.62	−0.71	23.45	4.38	−0.21
HSS	25.00	4.63	21.19	3.86	−0.84	22.35	4.13	−0.59	26.67	5.30	0.36	22.90	4.45	−0.45	21.56	4.02	−0.74	24.21	4.67	−0.17
SCI	25.15	4.80	20.89	3.66	−0.92	22.07	4.11	−0.66	26.61	5.50	0.30	23.02	4.35	−0.44	21.72	3.94	−0.72	24.16	4.80	−0.21
COE	8.75	2.37	6.88	2.03	−0.81	7.42	2.15	−0.58	9.30	2.65	0.23	7.74	2.31	−0.43	7.16	2.06	−0.67	8.37	2.41	−0.16
WIC	8.80	2.74	6.60	2.46	−0.81	7.07	2.54	−0.64	8.97	3.11	0.06	7.59	2.62	−0.44	6.76	2.57	−0.74	8.36	2.77	−0.16
EOI	8.71	2.49	6.78	2.00	−0.80	7.23	2.14	−0.61	9.19	2.83	0.19	7.61	2.23	−0.44	6.92	2.04	−0.72	8.28	2.47	−0.17
SEC	8.62	2.43	6.79	2.19	−0.76	7.36	2.23	−0.53	9.27	2.75	0.26	7.85	2.33	−0.32	6.98	2.21	−0.68	8.22	2.47	−0.17
HOA	8.40	2.79	6.33	2.06	−0.77	6.96	2.28	−0.54	10.23	3.26	0.65	7.31	2.46	−0.39	6.63	2.26	−0.64	7.85	2.80	−0.20
PSD	8.70	2.40	6.65	1.99	−0.87	7.35	2.16	−0.58	9.89	2.76	0.49	7.61	2.41	−0.45	7.09	2.18	−0.67	8.17	2.46	−0.22
PAM	7.96	2.65	6.50	2.11	−0.57	6.99	2.25	−0.38	10.21	3.35	0.83	7.36	2.45	−0.23	6.68	2.23	−0.49	7.65	2.60	−0.12
ERW	500.07	89.75	417.23	75.69	−0.95	440.07	81.29	−0.68	520.09	103.85	0.22	457.73	84.91	−0.47	427.36	78.76	−0.81	482.85	91.70	−0.19
MSS	487.53	85.80	413.58	65.43	−0.89	438.33	73.11	−0.60	552.95	109.25	0.74	449.90	81.58	−0.44	426.44	72.46	−0.71	469.09	87.52	−0.21
Total	987.60	163.77	830.81	127.95	−0.99	878.40	142.17	−0.69	1073.04	197.99	0.51	907.63	155.44	−0.49	853.81	138.09	−0.82	951.94	167.54	−0.22

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample is equal to or greater than 200.

Table A-6.13.6: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	23.98	4.28	20.02	3.82	−0.95	20.28	4.00	−0.90	23.91	4.72	−0.02
WL	23.32	4.57	19.32	4.13	−0.90	19.50	4.28	−0.87	23.43	4.95	0.02
MTS	22.64	3.93	19.44	3.56	−0.83	19.83	3.64	−0.74	24.21	4.79	0.38
HSS	23.34	4.56	19.44	4.08	−0.88	19.56	4.19	−0.87	23.76	5.13	0.09
SCI	23.88	4.52	19.54	4.12	−0.98	19.90	4.38	−0.89	24.09	4.98	0.05
COE	8.68	2.51	6.63	2.39	−0.83	6.84	2.48	−0.74	8.92	2.69	0.09
WIC	9.28	3.11	6.35	2.93	−0.96	6.37	3.05	−0.95	8.97	3.34	−0.10
EOI	8.84	2.56	6.57	2.41	−0.90	6.72	2.53	−0.83	8.83	2.77	−0.01
SEC	8.65	3.06	6.47	2.91	−0.72	6.44	2.91	−0.74	8.83	3.20	0.06
HOA	8.27	2.57	6.59	2.12	−0.68	6.72	2.20	−0.65	9.25	3.04	0.37
PSD	8.72	2.65	6.76	2.24	−0.77	7.04	2.30	−0.68	9.48	3.02	0.28
ERW	473.04	83.35	393.47	73.97	−0.98	397.74	77.59	−0.94	473.34	92.04	0.00
MSS	452.72	78.53	388.85	71.25	−0.83	396.53	72.81	−0.74	484.20	95.76	0.38
Total	925.77	149.31	782.32	131.25	−0.99	794.27	136.91	−0.92	957.54	174.42	0.21

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PSAT 8/9 Form 1 Score	White		Hawaiian			AIAN			Two or more races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	23.98	4.28	20.21	3.96	−0.88	20.39	3.98	−0.84	22.80	4.47	−0.27
WL	23.32	4.57	19.53	4.15	−0.83	19.14	4.11	−0.92	22.13	4.80	−0.26
MTS	22.64	3.93	19.76	3.68	−0.73	19.71	3.64	−0.75	21.62	4.21	−0.26
HSS	23.34	4.56	19.52	4.18	−0.84	19.49	4.09	−0.85	22.09	4.71	−0.27
SCI	23.88	4.52	20.04	4.34	−0.85	20.27	4.17	−0.80	22.51	4.85	−0.30
COE	8.68	2.51	6.74	2.40	−0.78	6.66	2.45	−0.81	8.10	2.63	−0.23
WIC	9.28	3.11	6.46	3.11	−0.91	6.43	3.10	−0.92	8.42	3.28	−0.27
EOI	8.84	2.56	6.66	2.50	−0.85	6.57	2.47	−0.89	8.18	2.71	−0.26
SEC	8.65	3.06	6.57	2.84	−0.68	6.16	2.86	−0.82	7.97	3.19	−0.22
HOA	8.27	2.57	6.72	2.20	−0.60	6.67	2.16	−0.63	7.75	2.64	−0.20
PSD	8.72	2.65	6.94	2.33	−0.67	6.99	2.35	−0.66	8.07	2.70	−0.24
ERW	473.04	83.35	397.38	76.14	−0.91	395.33	75.60	−0.93	449.33	87.69	−0.28
MSS	452.72	78.53	395.13	73.57	−0.73	394.26	72.71	−0.75	432.30	84.13	−0.26
Total	925.77	149.31	792.51	136.34	−0.89	789.59	135.87	−0.91	881.63	160.01	−0.29

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample size is equal or greater than 200.

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Table A-6.13.7: Scale Score Means, Standard Deviations, and Standardized Differences Between Racial/Ethnic Groups by Score Tier for PSAT 8/9 Form 2

PSAT 8/9 Form 2 Score	White		Black			Hispanic			Asian		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	23.7	4.17	20.5	3.71	−0.78	21.6	3.97	−0.51	25.07	4.76	0.33
WL	22.75	4.49	19.25	3.89	−0.8	20.19	4.2	−0.58	24.16	4.99	0.31
MTS	22.5	3.87	19.31	3.3	−0.84	20.45	3.53	−0.54	25.29	4.91	0.71
HSS	22.78	4.43	19.55	3.73	−0.75	20.74	4.02	−0.47	24.74	5.38	0.44
SCI	23.54	4.31	20.15	3.5	−0.81	21.09	3.9	−0.58	25	4.87	0.34
COE	8.58	2.54	6.7	2.34	−0.75	7.35	2.45	−0.49	9.36	2.76	0.31
WIC	9.06	3.1	6.54	2.99	−0.82	7.33	3.11	−0.56	9.57	3.34	0.16
EOI	8.56	2.67	6.54	2.45	−0.77	7.08	2.6	−0.56	9.23	2.91	0.25
SEC	8.62	3.14	6.35	3	−0.73	7	3.11	−0.52	9.57	3.24	0.3
HOA	8.21	2.53	6.47	2.03	−0.71	7.11	2.21	−0.45	9.99	3.1	0.69
PSD	8.4	2.67	6.39	2.16	−0.78	7.07	2.37	−0.51	9.75	3.09	0.5
ERW	464.43	81.46	397.48	70.31	−0.84	417.91	76.44	−0.58	492.32	92.84	0.34
MSS	449.93	77.42	386.28	65.99	−0.84	409.05	70.61	−0.54	505.9	98.28	0.71
Total	914.36	146.94	783.75	123.21	−0.91	826.96	134.36	−0.6	998.22	178.07	0.56

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PSAT 8/9 Form 2 Score	White		AIAN			Two or More Races		
	Mean	SD	Mean	SD	Std. Diff.	Mean	SD	Std. Diff.
R	23.7	4.17	20.66	3.6	−0.73	22.88	4.24	−0.2
WL	22.75	4.49	19.36	3.89	−0.76	21.69	4.64	−0.24
MSS	22.5	3.87	19.73	3.44	−0.72	21.51	4	−0.25
HSS	22.78	4.43	19.73	3.58	−0.69	21.96	4.48	−0.18
SCI	23.54	4.31	20.6	3.62	−0.68	22.48	4.33	−0.24
COE	8.58	2.54	6.76	2.31	−0.72	8.06	2.62	−0.2
WIC	9.06	3.1	6.83	3.01	−0.72	8.36	3.18	−0.23
EOI	8.56	2.67	6.66	2.4	−0.71	7.97	2.77	−0.22
SEC	8.62	3.14	6.35	3.09	−0.72	7.9	3.29	−0.23
HOA	8.21	2.53	6.65	2.07	−0.62	7.63	2.52	−0.23
PSD	8.4	2.67	6.75	2.38	−0.62	7.8	2.7	−0.23
ERW	464.43	81.46	400.18	69.46	−0.79	445.63	83.58	−0.23
MSS	449.93	77.42	394.69	68.71	−0.72	430.15	80.09	−0.25
Total	914.36	146.94	794.87	125.75	−0.82	875.78	152.4	−0.26

Note: AIAN stands for American Indian/Alaska Native. Std. Diff. = standardized difference for nonwhite group mean - white group mean. Results are only included if the nonwhite group sample size is equal or greater than 200.

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Table A-6.14.1: Scale Score Means, Standard Deviations, and Standardized Difference Between Gender Groups by Score Tier for SAT form 1

SAT Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	28.32	4.96	28.12	4.76	−0.04
WL	27.92	5.11	28.19	4.98	0.05
MTS	28.63	5.20	27.33	4.83	−0.26
HSS	28.58	4.97	28.12	4.69	−0.10
SCI	28.77	5.08	28.04	4.76	−0.15
COE	9.53	2.46	9.52	2.40	0.00
WIC	9.73	2.59	9.69	2.52	−0.01
EOI	9.81	2.64	9.91	2.56	0.04
SEC	9.09	2.87	9.28	2.82	0.07
HOA	9.76	2.59	9.03	2.38	−0.30
PSD	9.81	3.14	9.12	3.02	−0.22
PAM	9.67	2.91	9.21	2.71	−0.17
ERW	562.34	96.14	563.11	92.89	0.01
MSS	572.52	104.10	546.61	96.50	−0.26
Total	1134.87	189.08	1109.71	178.19	−0.14

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.2: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for SAT Form 2

SAT Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	28.05	4.87	27.33	4.62	−0.15
WL	27.63	5.03	27.32	4.77	−0.06
MTS	27.76	4.94	26.38	4.62	−0.29
HSS	27.97	4.80	27.13	4.55	−0.18
SCI	28.18	4.78	27.21	4.56	−0.21
COE	9.51	2.49	9.19	2.35	−0.13
WIC	9.71	2.53	9.22	2.45	−0.20
EOI	9.60	2.60	9.35	2.46	−0.10
SEC	8.96	2.94	8.92	2.82	−0.01
HOA	9.39	2.47	8.80	2.33	−0.24
PSD	9.62	2.81	8.74	2.71	−0.32
PAM	9.22	2.87	8.66	2.73	−0.20
ERW	556.81	94.09	546.46	88.89	−0.11
MSS	555.22	98.75	527.66	92.38	−0.29
Total	1112.03	180.98	1074.11	169.39	−0.22

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.3: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for SAT Form 3

SAT Form 3 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	28.14	4.89	27.59	4.65	−0.12
WL	27.38	5.05	27.53	4.86	0.03
MTS	28.13	5.03	26.68	4.69	−0.30
HSS	28.18	4.85	27.33	4.69	−0.18
SCI	28.24	5.01	27.47	4.70	−0.16
COE	9.36	2.42	9.19	2.38	−0.07
WIC	9.54	2.90	9.33	2.78	−0.08
EOI	9.56	2.73	9.54	2.63	−0.01
SEC	8.71	2.92	8.91	2.85	0.07
HOA	9.60	2.60	8.97	2.38	−0.25
PSD	9.59	2.83	8.65	2.82	−0.33
PAM	9.44	2.82	8.86	2.64	−0.21
ERW	555.22	94.65	551.23	90.40	−0.04
MSS	562.50	100.62	533.61	93.85	−0.30
Total	1117.72	183.98	1084.84	173.21	−0.18

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.4: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 1

PSAT/NMSQT and PSAT 10 Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	24.27	5.33	24.82	5.12	0.10
WL	23.78	5.56	24.64	5.26	0.16
MTS	24.55	5.05	23.89	4.65	−0.14
HSS	24.31	5.34	24.56	5.06	0.05
SCI	24.42	5.34	24.45	5.13	0.00
COE	8.27	2.64	8.67	2.56	0.15
WIC	8.26	2.98	8.54	2.84	0.10
EOI	8.30	2.61	8.64	2.50	0.13
SEC	8.17	2.69	8.59	2.59	0.16
HOA	8.24	3.20	7.93	2.99	−0.10
PSD	8.55	2.67	8.09	2.42	−0.18
PAM	8.39	2.88	8.12	2.76	−0.09
ERW	480.56	103.99	494.59	99.00	0.14
MSS	490.96	100.91	477.86	93.10	−0.14
Total	971.52	192.33	972.46	178.80	0.01

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.5: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT/NMSQT and PSAT 10 Form 2

PSAT/NMSQT and PSAT 10 Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	23.98	4.89	24.31	4.69	0.07
WL	22.83	5.10	24.05	5.05	0.24
MTS	23.67	4.69	23.31	4.26	−0.08
HSS	23.87	4.93	24.04	4.62	0.03
SCI	23.87	5.07	24.03	4.76	0.03
COE	8.03	2.46	8.39	2.39	0.15
WIC	7.86	2.88	8.35	2.80	0.17
EOI	7.86	2.52	8.39	2.50	0.21
SEC	7.84	2.46	8.38	2.51	0.22
HOA	7.97	2.96	7.81	2.65	−0.06
PSD	8.36	2.57	8.00	2.40	−0.14
PAM	7.69	2.77	7.64	2.59	−0.02
ERW	468.06	95.01	483.65	92.37	0.17
MSS	473.47	93.75	466.20	85.23	−0.08
Total	941.52	177.74	949.86	166.14	0.05

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.6: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT 8/9 Form 1

PSAT 8/9 Form 1 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	21.52	4.51	21.89	4.54	0.08
WL	20.49	4.88	21.44	4.72	0.20
MTS	21.07	4.29	20.93	4.04	−0.03
HSS	20.84	4.85	21.29	4.72	0.09
SCI	21.29	4.94	21.56	4.86	0.06
COE	7.32	2.66	7.79	2.66	0.18
WIC	7.29	3.43	7.69	3.34	0.12
EOI	7.27	2.80	7.79	2.71	0.19
SEC	7.01	3.23	7.61	3.11	0.19
HOA	7.41	2.62	7.38	2.49	−0.01
PSD	7.81	2.74	7.65	2.57	−0.06
ERW	420.08	89.16	433.35	87.95	0.15
MSS	421.43	85.85	418.69	80.74	−0.03
Total	841.51	163.30	852.05	156.45	0.07

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.14.7: Scale Score Means, Standard Deviations, and Standardized Differences Between Gender Groups by Score Tier for PSAT 8/9 Form 2

PSAT 8/9 Form 2 Score	Male		Female		
	Mean	SD	Mean	SD	Std. Diff.
R	22.44	4.35	23.32	4.25	0.20
WL	21.22	4.68	22.41	4.56	0.26
MTS	21.89	4.25	21.66	3.87	−0.06
HSS	21.68	4.65	22.31	4.40	0.14
SCI	22.48	4.52	22.83	4.30	0.08
COE	7.80	2.63	8.40	2.60	0.23
WIC	8.12	3.34	8.65	3.20	0.16
EOI	7.73	2.81	8.30	2.73	0.21
SEC	7.52	3.34	8.50	3.16	0.30
HOA	7.88	2.68	7.79	2.47	−0.04
PSD	8.07	2.85	7.78	2.60	−0.11
ERW	436.60	85.36	457.27	83.06	0.25
MSS	437.71	85.08	433.24	77.48	−0.06
Total	874.32	159.58	890.51	149.35	0.10

Note: Std. Diff. = standardized difference for female group mean - male group mean.

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Table A-6.15.1: Item Completion Rates by Timed Section for SAT Form 1

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100.00	100.00	100.00	100.00
2	100.00	100.00	99.99	100.00
3	100.00	100.00	99.99	100.00
4	100.00	100.00	99.99	100.00
5	100.00	100.00	99.99	100.00
6	100.00	100.00	99.98	100.00
7	100.00	100.00	99.96	99.99
8	100.00	100.00	99.94	99.99
9	100.00	100.00	99.88	99.99
10	100.00	100.00	99.86	99.99
11	100.00	100.00	99.60	99.99
12	100.00	99.99	99.46	99.99
13	100.00	99.99	99.38	99.99
14	100.00	99.99	98.98	99.98
15	99.99	99.99	98.47	99.98
16	99.99	99.99	90.98	99.98
17	99.99	99.98	89.10	99.97
18	99.99	99.98	83.38	99.96
19	99.99	99.97	69.41	99.95
20	99.98	99.96	56.58	99.94
21	99.98	99.95		99.91
22	99.95	99.94		99.88
23	99.94	99.91		99.78
24	99.93	99.89		99.74
25	99.93	99.85		99.67
26	99.87	99.79		99.60

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
27	99.85	99.70		99.51
28	99.81	99.66		99.44
29	99.77	99.53		99.34
30	99.71	99.42		99.22
31	99.64	99.32		96.50
32	99.58	99.25		95.38
33	99.25	99.15		93.68
34	99.19	98.86		92.45
35	99.03	98.67		88.32
36	98.90	98.35		86.08
37	98.79	98.07		83.48
38	98.69	97.69		80.97
39	98.59	97.30		
40	98.17	96.94		
41	97.95	96.61		
42	97.76	96.22		
43	97.11	95.53		
44	97.00	94.62		
45	96.33			
46	95.68			
47	95.31			
48	95.01			
49	94.34			
50	93.39			
51	92.82			
52	91.95			

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Table A-6.15.2: Item Completion Rates by Timed Section for SAT Form 2

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100	100	100	100
2	100	100	100	100
3	100	100	100	100
4	100	100	100	100
5	100	100	99.99	100
6	100	100	99.99	99.99
7	100	100	99.99	99.99
8	100	100	99.98	99.99
9	100	100	99.98	99.99
10	100	100	99.97	99.99
11	99.99	100	99.92	99.98
12	99.99	99.99	99.90	99.98
13	99.99	99.99	99.84	99.98
14	99.99	99.99	99.75	*
15	99.99	99.98	99.57	99.96
16	99.98	99.98	95.71	99.96
17	99.98	99.97	93.00	99.94
18	99.98	99.96	89.63	99.93
19	99.97	99.94	86.38	99.91
20	99.97	99.93	84.89	99.88
21	99.97	99.92		99.85
22	99.93	99.91		99.77
23	99.91	99.87		99.66
24	99.89	99.83		99.61
25	99.87	99.8		99.52
26	99.84	99.72		99.46

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
27	99.79	99.62		99.36
28	99.74	99.57		99.14
29	99.71	99.52		99.03
30	99.57	99.39		98.94
31	99.46	99.27		96.32
32	99.05	99.08		95.02
33	98.95	98.77		93.33
34	98.8	98.40		90.87
35	98.66	98.24		87.47
36	98.52	98.02		82.33
37	98.45	97.77		74.50
38	98.31	97.11		59.35
39	98.08	96.86		
40	97.76	96.32		
41	97.41	95.74		
42	96.67	95.43		
43	96.51	94.49		
44	96.37	93.32		
45	95.75			
46	95.46			
47	95.14			
48	94.05			
49	93.47			
50	93.04			
51	92.40			
52	91.85			

*Note: This item wasn't included in reported scores.

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Table A-6.15.3: Item Completion Rates by Timed Section for SAT Form 3

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100	100	100	100
2	100	100	100	100
3	100	100	99.99	100
4	100	100	99.99	100
5	100	100	99.99	100
6	100	100	99.99	100
7	100	100	99.98	100
8	100	100	99.98	99.99
9	100	100	99.95	99.99
10	100	100	99.93	99.99
11	99.99	100	99.87	99.99
12	99.99	99.99	99.79	99.99
13	99.99	99.99	99.70	99.98
14	99.99	99.99	99.30	99.97
15	99.99	99.99	99.01	99.97
16	99.99	99.99	91.29	99.96
17	99.99	99.99	86.97	99.95
18	99.98	99.98	83.83	99.95
19	99.98	99.98	78.67	99.93
20	99.97	99.96	71.97	99.91
21	99.94	99.96		99.87
22	99.93	99.94		99.85
23	99.93	99.90		99.80
24	99.90	99.89		99.77
25	99.86	99.85		99.68
26	99.83	99.78		99.59

Table A-6.15.3 continued on next page

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
27	99.79	99.75		99.54
28	99.72	99.66		99.44
29	99.69	99.57		99.32
30	—	99.50		99.19
31	99.27	99.39		96.40
32	99.16	99.27		94.78
33	99.10	99.17		93.08
34	99.00	98.95		91.76
35	98.93	98.81		90.02
36	98.83	98.64		87.49
37	98.59	98.41		85.66
38	98.45	97.89		80.52
39	98.29	97.37		
40	98.10	97.13		
41	97.97	96.81		
42	96.98	96.16		
43	96.78	95.50		
44	96.63	94.58		
45	96.39			
46	95.55			
47	95.23			
48	94.71			
49	94.34			
50	93.94			
51	93.32			
52	92.79			

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Table A-6.15.4: Item Completion Rates by Timed Section for PSAT/NMSQT and PSAT 10 Form 1

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100.00	100.00	99.92	100.00
2	100.00	100.00	99.91	99.99
3	99.99	100.00	99.89	99.98
4	99.99	100.00	99.87	99.97
5	99.99	99.99	99.78	99.94
6	99.99	99.98	99.71	99.93
7	99.98	99.97	99.57	99.91
8	99.98	99.95	99.28	99.86
9	99.97	99.94	99.06	99.83
10	99.91	99.91	98.69	99.76
11	99.89	99.90	98.27	99.70
12	99.88	99.85	97.48	99.60
13	99.84	99.80	96.83	99.49
14	99.82	99.77		99.33
15	99.81	99.73		99.15
16	99.79	99.70		98.94
17	99.74	99.59	83.93	98.64
18	99.69	99.54	75.72	98.16
19	99.32	99.40	66.35	97.99
20	99.20	99.31	52.75	97.65
21	99.09	99.20		97.27
22	98.97	99.01		96.49
23	98.85	98.56		96.23
24	98.76	98.37		95.75

Table A-6.15.4 continued on next page

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
25	98.45	98.17		95.20
26	98.21	97.75		94.23
27	97.98	97.56		93.72
28	97.65	97.30		
29	96.00	96.71		
30	95.66	95.85		
31	95.37	95.21		77.61
32	94.96	94.95		70.77
33	94.52	94.56		67.06
34	94.14	93.55		62.93
35	93.79	93.00		
36	93.50	92.52		
37	92.82	91.79		
38	92.57	91.29		
39	90.06	90.31		
40	89.76	89.43		
41	89.23	88.74		
42	88.14	87.61		
43	87.55	86.53		
44	86.39	86.02		
45	85.88			
46	85.49			
47	84.50			

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Table A-6.15.5: Item Completion Rates by Timed Section for PSAT/NMSQT and PSAT 10 Form 2

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100.00	100.00	99.98	100.00
2	100.00	100.00	99.97	100.00
3	100.00	100.00	99.97	99.99
4	100.00	100.00	99.96	99.98
5	99.99	99.99	99.92	99.96
6	99.99	99.99	99.91	99.95
7	99.99	99.99	99.88	99.94
8	99.99	99.98	99.84	99.92
9	99.98	99.98	99.73	99.89
10	99.96	99.98	99.64	99.87
11	99.95	99.97	99.47	99.81
12	99.94	99.95	98.94	99.77
13	99.92	99.93	98.67	99.72
14	99.90	99.92		99.67
15	99.89	99.91		99.55
16	99.87	99.88	83.22	99.38
17	99.85	99.87	79.59	99.26
18	99.84	99.84	67.30	99.15
19	99.69	99.76	58.37	98.92
20	99.64	99.69		98.74
21	99.60	99.63		98.56
22	99.55	99.55		98.12
23	99.47	99.35		97.87
24	99.42	99.27		97.62

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
25	99.30	99.15		97.32
26	99.18	98.97		96.81
27	99.07	98.70		96.23
28	98.91	98.48		
29	98.28	98.37		
30	97.91	98.14		
31	97.73	97.98		82.05
32	97.44	97.75		75.75
33	97.25	97.65		71.34
34	97.10	96.90		67.28
35	96.66	96.68		
36	96.39	96.42		
37	95.81	95.91		
38	95.45	95.62		
39	94.28	95.06		
40	93.95	94.65		
41	93.39	94.26		
42	93.00	93.89		
43	92.52	93.50		
44	92.25	93.31		
45	91.26			
46	90.66			
47	90.24			

Note: SPR item numbers skip in sequence.

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Table A-6.15.6: Item Completion Rates by Timed Section for PSAT 8/9 Form 1

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100.00	100.00	99.93	100.00
2	100.00	100.00	99.89	99.98
3	99.99	99.99	99.82	99.96
4	99.98	99.99	99.74	99.91
5	99.98	99.98	99.43	99.85
6	99.98	99.97	99.08	99.80
7	99.96	99.96	98.62	99.66
8	99.94	99.90	97.97	99.50
9	99.83	99.86	97.03	99.32
10	99.78	99.84	95.65	99.15
11	99.75	99.76		98.91
12	99.70	99.68		98.25
13	99.60	99.61		97.75
14	99.55	99.47		97.35
15	99.44	99.22		96.52
16	99.33	98.89	69.44	95.85
17	98.26	98.66	64.65	93.66
18	97.99	98.36	54.68	92.69
19	97.76	98.09		91.69
20	97.25	97.68		90.55
21	96.77	96.50		89.25
22	96.24	96.16		
23	95.86	95.21		
24	95.27	94.75		

Table A-6.15.6 continued on next page

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – With Calculator
25	94.41	93.43		
26	90.45	92.89		
27	89.30	92.16		
28	88.31	91.55		
29	87.32	90.34		
30	86.40	89.40		
31	85.66	87.76		73.84
32	84.37	86.56		62.16
33	83.27	85.76		57.21
34	82.57	84.71		52.04
35	78.90	82.68		
36	78.04	81.79		
37	76.78	80.46		
38	75.91	79.50		
39	75.17	78.16		
40	74.62	75.97		
41	73.52			
42	72.89			

Note: SPR item numbers skip in sequence.

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Table A-6.15.7: Item Completion Rates by Timed Section for PSAT 8/9 Form 2

Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
1	100.00	100.00	99.96	100.00
2	100.00	100.00	99.95	100.00
3	100.00	99.99	99.93	99.99
4	99.99	99.99	99.91	99.98
5	99.99	99.98	99.89	99.97
6	99.99	99.98	99.82	99.95
7	99.99	99.97	99.73	99.93
8	99.98	99.96	99.61	99.86
9	99.95	99.94	99.42	99.83
10	99.94	99.94	99.11	99.80
11	99.92	99.87		99.71
12	99.92	99.79		99.57
13	99.89	99.75		99.48
14	99.88	99.72		99.39
15	99.86	99.69	80.30	99.14
16	99.84	99.57	75.93	98.88
17	99.63	99.50	67.01	98.14
18	99.56	99.36		97.77
19	99.49	99.27		97.33
20	99.40	99.16		96.81
21	99.35	98.96		96.35
22	99.23	98.83		
23	99.12	98.54		
24	98.99	98.39		

Table A-6.15.7 continued on next page

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Item Number	Reading	Writing and Language	Math – No Calculator	Math – Calculator
25	98.77	98.19		
26	97.81	97.84		
27	97.55	97.57		
28	97.28	97.15		
29	97.00	96.79		
30	96.74	96.43		
31	96.53	95.85		82.57
32	96.12	95.57		78.43
33	95.65	95.30		74.63
34	95.39	94.57		67.83
35	93.74	94.04		
36	93.29	93.27		
37	92.77	92.75		
38	92.22	92.06		
39	91.57	91.53		
40	91.16	90.83		
41	90.71			
42	90.24			

Note: SPR item numbers skip in sequence.

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Table A-6.16.1: Timed Section Completion Rate Statistics for SAT Form 1

Test	Category	Results
Reading	# Items Reached by 80%	52
	# Items in Section	52
	Percentage Completing 75%	98.59
	Percentage Completing Section	91.95
	Mean Not Reached	0.67
	SD Not Reached	2.93
Writing and Language	# Items Reached by 80%	44
	# Items in Section	44
	Percentage Completing 75%	99.15
	Percentage Completing Section	94.62
	Mean Not Reached	0.36
	SD Not Reached	1.97
Math – No Calculator	# Items Reached by 80%	18
	# Items in Section	20
	Percentage Completing 75%	98.47
	Percentage Completing Section	56.58
	Mean Not Reached	1.15
	SD Not Reached	1.76
Math – Calculator	# Items Reached by 80%	38
	# Items in Section	38
	Percentage Completing 75%	99.34
	Percentage Completing Section	80.97
	Mean Not Reached	0.87
	SD Not Reached	2.23

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Table A-6.16.2: Timed Section Completion Rate Statistics for SAT Form 2

Test	Category	Results
Reading	# Items Reached by 80%	52
	# Items in Section	52
	% Completing 75%	98.08
	% Completing Section	91.85
	Mean Not Reached	0.78
	SD Not Reached	3.30
Writing and Language	# Items Reached by 80%	44
	# Items in Section	44
	% Completing 75%	98.77
	% Completing Section	93.32
	Mean Not Reached	0.44
	SD Not Reached	2.19
Math – No Calculator	# Items Reached by 80%	20
	# Items in Section	20
	% Completing 75%	99.57
	% Completing Section	84.89
	Mean Not Reached	0.52
	SD Not Reached	1.36
Math – Calculator	# Items Reached by 80%	35
	# Items in Section	37
	% Completing 75%	99.03
	% Completing Section	59.35
	Mean Not Reached	1.27
	SD Not Reached	2.37

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Table A-6.16.3: Timed Section Completion Rate Statistics for SAT Form 3

Test	Category	Results
Reading	# Items Reached by 80%	51
	# Items in Section	51
	% Completing 75%	98.10
	% Completing Section	92.79
	Mean Not Reached	0.69
	SD Not Reached	3.11
Writing and Language	# Items Reached by 80%	44
	# Items in Section	44
	% Completing 75%	99.17
	% Completing Section	94.58
	Mean Not Reached	0.34
	SD Not Reached	1.90
Math – No Calculator	# Items Reached by 80%	18
	# Items in Section	20
	% Completing 75%	99.01
	% Completing Section	71.97
	Mean Not Reached	0.90
	SD Not Reached	1.72
Math – Calculator	# Items Reached by 80%	38
	# Items in Section	38
	% Completing 75%	99.32
	% Completing Section	80.52
	Mean Not Reached	0.85
	SD Not Reached	2.25

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Table A-6.16.4: Timed Section Completion Rate Statistics for PSAT/NMSQT and PSAT 10 Form 1

Test	Category	Results
Reading	# Items Reached by 80%	47
	# Items in Section	47
	% Completing 75%	93.50
	% Completing Section	84.50
	Mean Not Reached	1.85
	SD Not Reached	5.33
Writing and Language	# Items Reached by 80%	44
	# Items in Section	44
	% Completing 75%	94.56
	% Completing Section	86.02
	Mean Not Reached	1.50
	SD Not Reached	4.64
Math – No Calculator	# Items Reached by 80%	14
	# Items in Section	17
	% Completing 75%	96.83
	% Completing Section	52.75
	Mean Not Reached	1.33
	SD Not Reached	1.92
Math – Calculator	# Items Reached by 80%	27
	# Items in Section	31
	% Completing 75%	95.75
	% Completing Section	62.93
	Mean Not Reached	1.65
	SD Not Reached	3.11

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Table A-6.16.5: Timed Section Completion Rate Statistics for PSAT/NMSQT and PSAT 10 Form 2

Test	Category	Results
Reading	# Items Reached by 80%	47
	# Items in Section	47
	% Completing 75%	96.39
	% Completing Section	90.24
	Mean Not Reached	1.06
	SD Not Reached	3.97
Writing and Language	# Items Reached by 80%	44
	# Items in Section	44
	% Completing 75%	97.65
	% Completing Section	93.31
	Mean Not Reached	0.72
	SD Not Reached	3.26
Math – No Calculator	# Items Reached by 80%	14
	# Items in Section	17
	% Completing 75%	98.67
	% Completing Section	58.37
	Mean Not Reached	1.16
	SD Not Reached	1.67
Math – Calculator	# Items Reached by 80%	28
	# Items in Section	31
	% Completing 75%	97.62
	% Completing Section	67.28
	Mean Not Reached	1.28
	SD Not Reached	2.53

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Table A-6.16.6: Timed Section Completion Rate Statistics for PSAT 8/9 Form 1

Test	Category	Results
Reading	# Items Reached by 80%	34
	# Items in Section	42
	% Completing 75%	84.37
	% Completing Section	72.89
	Mean Not Reached	3.50
	SD Not Reached	6.80
Writing and Language	# Items Reached by 80%	37
	# Items in Section	40
	% Completing 75%	89.40
	% Completing Section	75.97
	Mean Not Reached	2.55
	SD Not Reached	5.77
Math – No Calculator	# Items Reached by 80%	10
	# Items in Section	13
	% Completing 75%	95.65
	% Completing Section	54.68
	Mean Not Reached	1.24
	SD Not Reached	1.69
Math – Calculator	# Items Reached by 80%	21
	# Items in Section	25
	% Completing 75%	91.69
	% Completing Section	52.04
	Mean Not Reached	2.15
	SD Not Reached	3.25

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Table A-6.16.7: Timed Section Completion Rate Statistics for PSAT 8/9 Form 2

Test	Category	Results
Reading	# Items Reached by 80%	42
	# Items in Section	42
	% Completing 75%	96.12
	% Completing Section	90.24
	Mean Not Reached	1.02
	SD Not Reached	3.74
Writing and Language	# Items Reached by 80%	40
	# Items in Section	40
	% Completing 75%	96.43
	% Completing Section	90.83
	Mean Not Reached	0.90
	SD Not Reached	3.57
Math – No Calculator	# Items Reached by 80%	11
	# Items in Section	13
	% Completing 75%	99.11
	% Completing Section	67.01
	Mean Not Reached	0.79
	SD Not Reached	1.30
Math – Calculator	# Items Reached by 80%	22
	# Items in Section	25
	% Completing 75%	97.33
	% Completing Section	67.83
	Mean Not Reached	1.15
	SD Not Reached	2.20

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Table A-6.17.1: Timed Section Completion Rate Statistics by Race/ Ethnicity for SAT Form 1

Section	Category	White	Black	Hispanic	Asian	Hawaiian	AIAN	Two or More Races
Reading	# Items Reached by 80%	52	52	52	52	52	52	52
	# Items in Section	52	52	52	52	52	52	52
	% Completing 75%	99.58	95	97.44	99.46	98.41	97.95	99.12
	% Completing Section	95.48	80.30	87.37	94.79	90.68	88.49	93.69
	Mean Not Reached	0.29	1.98	1.14	0.34	0.89	1.03	0.48
	SD Not Reached	1.75	5.12	3.80	1.98	3.39	3.66	2.41
Writing and Language	# Items Reached by 80%	44	44	44	44	44	44	44
	# Items in Section	44	44	44	44	44	44	44
	% Completing 75%	99.78	96.58	98.60	99.71	98.64	98.58	99.44
	% Completing Section	97.28	85	91.76	96.71	92.95	91.80	95.80
	Mean Not Reached	0.14	1.21	0.57	0.17	0.51	0.65	0.26
	SD Not Reached	1.11	3.68	2.47	1.28	2.46	2.81	1.62
Math – No Calculator	# Items Reached by 80%	18	15	17	18	17	18	18
	# Items in Section	20	20	20	20	20	20	20
	% Completing 75%	99.13	96	97.69	99.36	98.41	97.95	98.74
	% Completing Section	60.71	44.32	47.94	65.01	49.77	55.36	58.08
	Mean Not Reached	0.92	1.89	1.54	0.80	1.44	1.28	1.06
	SD Not Reached	1.50	2.29	2	1.42	1.88	1.90	1.66
Math – Calculator	# Items Reached by 80%	38	34	35	38	36	36	38
	# Items in Section	38	38	38	38	38	38	38
	% Completing 75%	99.75	97.85	98.84	99.80	99.77	99.05	99.54
	% Completing Section	86.93	64.11	71.80	86.23	75.23	75.24	83.13
	Mean Not Reached	0.50	2	1.40	0.52	1.16	1.23	0.75
	SD Not Reached	1.61	3.35	2.76	1.60	2.36	2.63	2.03

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.2: Timed Section Completion Rate Statistics by Gender and Grade Level for SAT Form 1

		Gender		Grade	
	Category	**Male**	**Female**	**Grade 11**	**Grade 12**
Reading	# Items Reached by 80%	52	52	52	52
	# Items in Section	52	52	52	52
	% Completing 75%	98.51	98.65	99.15	95.39
	% Completing Section	92.28	91.69	93.88	80.95
	Mean Not Reached	0.68	0.66	0.46	1.87
	SD Not Reached	3.01	2.86	2.34	4.95
Writing and Language	# Items Reached by 80%	44	44	44	44
	# Items in Section	44	44	44	44
	% Completing 75%	98.96	99.30	99.56	96.79
	% Completing Section	94.29	94.90	96.30	85.06
	Mean Not Reached	0.41	0.32	0.22	1.17
	SD Not Reached	2.15	1.80	1.46	3.61
Math – No Calculator	# Items Reached by 80%	18	18	18	15
	# Items in Section	20	20	20	20
	% Completing 75%	98.50	98.45	98.97	95.62
	% Completing Section	57	56.24	58.50	45.62
	Mean Not Reached	1.14	1.16	1.02	1.87
	SD Not Reached	1.77	1.75	1.60	2.35
Math – Calculator	# Items Reached by 80%	37	38	38	34
	# Items in Section	38	38	38	38
	% Completing 75%	99.21	99.45	99.62	97.78
	% Completing Section	79.13	82.48	83.47	66.72
	Mean Not Reached	0.97	0.79	0.70	1.87
	SD Not Reached	2.37	2.10	1.92	3.33

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Table A-6.17.3: Timed Section Completion Rate Statistics by Race/Ethnicity for SAT Form 2

Section	Category	White	Black	Hispanic	Asian	AIAN	Hawaiian	Two or More Races
Reading	# Items Reached by 80%	52	52	52	52	52	52	52
	# Items in Section	52	52	52	52	52	52	52
	% Completing 75%	99.32	94.62	96.62	99.12	96.92	98.33	98.43
	% Completing Section	95.31	82.66	87.49	94.48	88.71	92.59	92.68
	Mean Not Reached	0.36	1.92	1.29	0.43	1.14	0.63	0.66
	SD Not Reached	2.08	5.25	4.26	2.31	4.05	2.87	3
Writing and Language	# Items Reached by 80%	44	44	44	44	44	44	44
	# Items in Section	44	44	44	44	44	44	44
	% Completing 75%	99.62	96.17	97.92	99.39	97.95	99.26	99.04
	% Completing Section	96.16	85.09	90.24	95.25	91.33	91.67	93.72
	Mean Not Reached	0.19	1.20	0.71	0.26	0.63	0.41	0.38
	SD Not Reached	1.30	3.72	2.79	1.58	2.60	1.99	1.98
Math – No Calculator	# Items Reached by 80%	20	17	18	20	19	20	20
	# Items in Section	20	20	20	20	20	20	20
	% Completing 75%	99.84	98.85	99.27	99.77	98.97	99.44	99.62
	% Completing Section	89.86	72.95	77.56	90.38	78.11	85.93	85.96
	Mean Not Reached	0.32	1.01	0.79	0.31	0.79	0.45	0.47
	SD Not Reached	1.06	1.86	1.64	1.05	1.69	1.26	1.30
Math – Calculator	# Items Reached by 80%	36	33	33	35	34	35	35
	# Items in Section	37	37	37	37	37	37	37
	% Completing 75%	99.61	97.45	98.28	99.55	98.75	98.89	99.30
	% Completing Section	66.39	44.66	48.89	63.57	55.30	57.78	60.21
	Mean Not Reached	0.86	2.26	1.85	0.92	1.50	1.34	1.16
	SD Not Reached	1.75	3.35	2.87	1.78	2.57	2.48	2.16

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.4: Timed Section Completion Rate Statistics by Gender and Grade Level for SAT Form 2

		Gender		Grade	
	Category	**Male**	**Female**	**Grade 11**	**Grade 12**
Reading	# Items Reached by 80%	52	52	52	52
	# Items in Section	52	52	52	52
	% Completing 75%	98	98.15	98.28	95.22
	% Completing Section	92.09	91.66	92.40	84.06
	Mean Not Reached	0.79	0.77	0.71	1.73
	SD Not Reached	3.38	3.23	3.13	5.02
Writing and Language	# Items Reached by 80%	44	44	44	44
	# Items in Section	44	44	44	44
	% Completing 75%	98.60	98.92	98.97	95.93
	% Completing Section	92.98	93.61	93.93	84.65
	Mean Not Reached	0.49	0.40	0.39	1.22
	SD Not Reached	2.35	2.06	2.03	3.77
Math – No Calculator	# Items Reached by 80%	20	20	20	17
	# Items in Section	20	20	20	20
	% Completing 75%	99.54	99.59	99.63	98.71
	% Completing Section	85.08	84.73	85.71	73.18
	Mean Not Reached	0.52	0.51	0.48	1
	SD Not Reached	1.38	1.34	1.31	1.87
Math – Calculator	# Items Reached by 80%	35	35	35	33
	# Items in Section	37	37	37	37
	% Completing 75%	99	99.05	99.13	97.61
	% Completing Section	59.76	59	60.19	47.24
	Mean Not Reached	1.28	1.26	1.21	2.17
	SD Not Reached	2.41	2.33	2.28	3.28

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Table A-6.17.5: Timed Section Completion Rate Statistics by Race/Ethnicity for SAT Form 3

Section	Category	White	Black	Hispanic	Asian	Hawaiian	AIAN	Two or More Races
Reading	# Items Reached by 80%	51	51	51	51	51	51	51
	# Items in Section	51	51	51	51	51	51	51
	% Completing 75%	99.35	94.99	96.66	99.13	97.50	97.13	98.71
	% Completing Section	96.36	84.19	88.69	95.43	91.46	90.62	94.15
	Mean Not Reached	0.28	1.71	1.16	0.37	0.84	0.96	0.50
	SD Not Reached	1.86	4.90	4.02	2.17	3.37	3.61	2.57
Writing and Language	# Items Reached by 80%	44	44	44	44	44	44	44
	# Items in Section	44	44	44	44	44	44	44
	% Completing 75%	99.75	97.41	98.64	99.64	99.71	98.57	99.42
	% Completing Section	97.16	87.58	92.13	96.11	95.73	92.94	95.51
	Mean Not Reached	0.14	0.92	0.53	0.20	0.22	0.54	0.26
	SD Not Reached	1.11	3.19	2.37	1.34	1.28	2.42	1.63
Math – No Calculator	# Items Reached by 80%	19	16	17	19	18	17	19
	# Items in Section	20	20	20	20	20	20	20
	% Completing 75%	99.53	97.40	98.47	99.60	99.56	98.68	99.26
	% Completing Section	79.24	58.46	62.10	77.32	64.80	68.54	73.65
	Mean Not Reached	0.59	1.55	1.30	0.62	1.10	1.08	0.80
	SD Not Reached	1.39	2.20	2.00	1.39	1.77	1.91	1.63
Math – Calculator	# Items Reached by 80%	38	34	35	38	37	37	38
	# Items in Section	38	38	38	38	38	38	38
	% Completing 75%	99.75	98.24	98.82	99.73	99.71	99.45	99.44
	% Completing Section	88.27	65.35	70.61	84.90	78.50	77.48	83.26
	Mean Not Reached	0.43	1.74	1.37	0.54	0.97	1.01	0.69
	SD Not Reached	1.51	3.22	2.78	1.68	2.30	2.34	1.99

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.6: Timed Section Completion Rate Statistics by Gender and Grade Level for SAT Form 3

		Gender		Grade Level	
Section	**Category**	**Male**	**Female**	**Grade 11**	**Grade 12**
Reading	# Items Reached by 80%	51	51	51	51
	# Items in Section	51	51	51	51
	% Completing 75%	97.99	98.18	98.14	97.52
	% Completing Section	92.93	92.69	92.92	91.13
	Mean Not Reached	0.70	0.68	0.68	0.88
	SD Not Reached	3.19	3.05	3.07	3.56
Writing and Language	# Items Reached by 80%	44	44	44	44
	# Items in Section	44	44	44	44
	% Completing 75%	98.97	99.31	99.22	98.49
	% Completing Section	94.07	94.97	94.80	91.79
	Mean Not Reached	0.40	0.30	0.33	0.56
	SD Not Reached	2.09	1.73	1.84	2.47
Math – No Calculator	# Items Reached by 80%	18	18	18	18
	# Items in Section	20	20	20	20
	% Completing 75%	99.02	99.00	99.06	98.29
	% Completing Section	73.55	70.78	72.14	69.73
	Mean Not Reached	0.86	0.92	0.88	1.07
	SD Not Reached	1.72	1.73	1.71	1.94
Math – Calculator	# Items Reached by 80%	38	37	38	37
	# Items in Section	38	38	38	38
	% Completing 75%	99.27	99.36	99.35	98.90
	% Completing Section	81.24	79.97	80.72	77.91
	Mean Not Reached	0.86	0.84	0.83	1.10
	SD Not Reached	2.31	2.20	2.21	2.70

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Table A-6.17.7: Timed Section Completion Rate Statistics by Race/Ethnicity for PSAT/NMSQT and PSAT 10 Form 1

	Category	White	Black	Hispanic	Asian	Hawaiian	AIAN	Two or More Races
Reading	# Items Reached by 80%	47	42	42	47	47	47	47
	# Items in Section	47	47	47	47	47	47	47
	% Completing 75%	97.58	88.58	88.57	96.86	93.35	93.10	94.82
	% Completing Section	91.50	76.10	75.81	89.83	83.84	84.87	86.16
	Mean Not Reached	0.79	3.15	3.12	0.99	1.89	1.90	1.52
	SD Not Reached	3.28	6.91	6.78	3.71	5.31	5.43	4.72
Writing and Language	# Items Reached by 80%	44	41	42	44	44	44	44
	# Items in Section	44	44	44	44	44	44	44
	% Completing 75%	98.04	89.90	90.56	97.32	94.98	94.49	95.77
	% Completing Section	92.57	77.51	78.26	90.59	86.73	86.75	87.71
	Mean Not Reached	0.62	2.66	2.50	0.82	1.39	1.49	1.21
	SD Not Reached	2.82	6.14	5.89	3.25	4.44	4.71	4.08
Math – No Calculator	# Items Reached by 80%	15	13	13	15	14	14	14
	# Items in Section	17	17	17	17	17	17	17
	% Completing 75%	98.37	95.28	94.73	98.35	96.92	97.01	97.19
	% Completing Section	58.02	45.77	44.95	61.55	51.65	57.09	52.37
	Mean Not Reached	1.02	1.73	1.74	0.93	1.41	1.28	1.29
	SD Not Reached	1.58	2.20	2.19	1.54	1.93	1.94	1.84
Math – Calculator	# Items Reached by 80%	28	27	27	28	27	27	27
	# Items in Section	31	31	31	31	31	31	31
	% Completing 75%	98.13	92.93	92.76	97.97	96.05	96.02	96.31
	% Completing Section	71.01	52.51	53.61	68.54	61.24	65.69	63.66
	Mean Not Reached	1.06	2.40	2.35	1.13	1.73	1.57	1.55
	SD Not Reached	2.24	3.83	3.76	2.29	3.13	3.09	2.94

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.8: Timed Section Completion Rate Statistics by Gender and Grade Level for PSAT/NMSQT and PSAT 10 Form 1

		Gender		Grade Level	
	Category	**Male**	**Female**	**Grade 10**	**Grade 11**
Reading	# Items Reached by 80%	47	47	47	47
	# Items in Section	47	47	47	47
	% Completing 75%	92.86	94.13	92.07	95.04
	% Completing Section	84.69	84.36	82.34	86.83
	Mean Not Reached	1.97	1.73	2.20	1.47
	SD Not Reached	5.65	5.00	5.83	4.72
Writing and Language	# Items Reached by 80%	44	44	44	44
	# Items in Section	44	44	44	44
	% Completing 75%	93.75	95.34	93.56	95.62
	% Completing Section	85.74	86.32	84.56	87.60
	Mean Not Reached	1.67	1.33	1.73	1.25
	SD Not Reached	5.04	4.22	5.02	4.19
Math – No Calculator	# Items Reached by 80%	14	14	14	14
	# Items in Section	17	17	17	17
	% Completing 75%	96.80	96.87	96.29	97.41
	% Completing Section	53.99	51.66	52.13	53.43
	Mean Not Reached	1.34	1.32	1.42	1.23
	SD Not Reached	1.97	1.86	2.02	1.80
Math – Calculator	# Items Reached by 80%	27	27	27	28
	# Items in Section	31	31	31	31
	% Completing 75%	95.50	96.00	94.91	96.66
	% Completing Section	61.91	63.96	61.38	64.60
	Mean Not Reached	1.73	1.57	1.82	1.47
	SD Not Reached	3.21	2.99	3.34	2.83

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Table A-6.17.9: Timed Section Completion Rate Statistics by Race/Ethnicity for PSAT/NMSQT and PSAT 10 Form 2

Form	Category	White	Black	Hispanic	Asian	Hawaiian	AIAN	Two or More Races
Reading	# Items Reached by 80%	47	47	47	47	47	47	47
	# Items in Section	47	47	47	47	47	47	47
	% Completing 75%	98.70	90.94	92.56	97.76	96.32	96.23	96.77
	% Completing Section	94.49	81.64	82.66	91.59	90.18	90.50	90.92
	Mean Not Reached	0.47	2.40	2.04	0.74	1.16	1.07	0.93
	SD Not Reached	2.42	6.10	5.44	3.13	4.23	4.07	3.63
Writing and Language	# Items Reached by 80%	44	44	44	44	44	44	44
	# Items in Section	44	44	44	44	44	44	44
	% Completing 75%	99.19	93.59	95.37	98.64	98.16	97.48	98.04
	% Completing Section	96.70	85.70	87.76	94.32	94.07	93.71	93.69
	Mean Not Reached	0.29	1.79	1.38	0.51	0.58	0.73	0.63
	SD Not Reached	1.95	5.19	4.43	2.57	2.85	3.32	2.95
Math – No Calculator	# Items Reached by 80%	15	13	13	15	14	14	14
	# Items in Section	17	17	17	17	17	17	17
	% Completing 75%	99.31	97.26	97.51	99.02	98.57	99.02	98.75
	% Completing Section	64.04	46.97	48.86	60.70	54.19	60.92	57.12
	Mean Not Reached	0.89	1.74	1.57	0.96	1.28	1.17	1.18
	SD Not Reached	1.44	1.99	1.89	1.47	1.70	1.69	1.70
Math – Calculator	# Items Reached by 80%	29	27	27	29	27	28	28
	# Items in Section	31	31	31	31	31	31	31
	% Completing 75%	98.87	94.62	95.37	98.62	98.16	97.86	97.95
	% Completing Section	74.16	53.24	56.41	69.03	62.58	68.10	66.79
	Mean Not Reached	0.87	2.19	1.95	1.04	1.41	1.23	1.24
	SD Not Reached	1.91	3.48	3.21	2.04	2.45	2.34	2.41

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.10: Timed Section Completion Rate Statistics by Gender and Grade Level for PSAT/NMSQT and PSAT 10 Form 2

		Gender		Grade Level	
Form	**Category**	**Male**	**Female**	**Grade 10**	**Grade 11**
Reading	# Items Reached by 80%	47	47	47	47
	# Items in Section	47	47	47	47
	% Completing 75%	96.28	96.51	96.40	94.44
	% Completing Section	90.94	89.59	90.26	87.41
	Mean Not Reached	1.06	1.05	1.05	1.49
	SD Not Reached	4.10	3.83	3.97	4.94
Writing and Language	# Items Reached by 80%	44	44	44	44
	# Items in Section	44	44	44	44
	% Completing 75%	97.28	98.02	97.66	96.27
	% Completing Section	93.13	93.51	93.33	89.06
	Mean Not Reached	0.80	0.64	0.72	1.22
	SD Not Reached	3.54	2.95	3.25	4.28
Math – No Calculator	# Items Reached by 80%	14	14	14	13
	# Items in Section	17	17	17	17
	% Completing 75%	98.70	98.64	98.68	96.53
	% Completing Section	59.19	57.63	58.40	51.91
	Mean Not Reached	1.15	1.16	1.16	1.43
	SD Not Reached	1.70	1.64	1.67	1.99
Math – Calculator	# Items Reached by 80%	28	28	28	27
	# Items in Section	31	31	31	31
	% Completing 75%	97.61	97.64	97.63	95.66
	% Completing Section	67.64	66.99	67.33	56.60
	Mean Not Reached	1.28	1.27	1.27	1.86
	SD Not Reached	2.58	2.47	2.53	3.10

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Table A-6.17.11: Timed Section Completion Rate Statistics by Race/Ethnicity for PSAT 8/9 Form 1

Section	Category	White	Black	Hispanic	Asian	Hawaiian	AIAN	Two or More Races
Reading	# Items Reached by 80%	42	31	30	42	34	38	40
	# Items in Section	42	42	42	42	42	42	42
	% Completing 75%	94.81	79.79	78.09	91.23	82.99	87.28	89.54
	% Completing Section	87.14	67.18	64.44	81.23	71.61	78.32	78.74
	Mean Not Reached	1.33	4.45	4.79	2.07	3.90	2.85	2.48
	SD Not Reached	4.11	7.60	7.67	5.11	7.31	6.30	5.70
Writing and Language	# Items Reached by 80%	40	34	33	40	37	40	40
	# Items in Section	40	40	40	40	40	40	40
	% Completing 75%	96.53	86.01	85.47	94.63	90.92	90.27	93.21
	% Completing Section	88.68	70.18	68.97	83.82	76.34	81.03	80.69
	Mean Not Reached	0.96	3.30	3.42	1.41	2.35	2.18	1.79
	SD Not Reached	3.47	6.47	6.51	4.16	5.38	5.57	4.75
Math – No Calculator	# Items Reached by 80%	10	10	10	10	10	10	10
	# Items in Section	13	13	13	13	13	13	13
	% Completing 75%	98.11	95.16	94.08	97.30	95.01	97.92	96.68
	% Completing Section	65.65	49.49	47.98	61.96	50.90	60.88	57.56
	Mean Not Reached	0.84	1.43	1.49	0.93	1.42	1.03	1.12
	SD Not Reached	1.38	1.76	1.80	1.46	1.84	1.49	1.63
Math – Calculator	# Items Reached by 80%	22	21	21	22	21	21	21
	# Items in Section	25	25	25	25	25	25	25
	% Completing 75%	96.91	90.26	88.46	95.92	91.69	93.68	93.68
	% Completing Section	66.70	44.48	43.83	59.68	48.98	58.23	55
	Mean Not Reached	1.18	2.58	2.72	1.48	2.34	1.85	1.86
	SD Not Reached	2.25	3.46	3.59	2.51	3.31	3.17	2.98

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.12: Timed Section Completion Rate Statistics by Gender and Grade Level for PSAT 8/9 Form 1

		Gender		Grade Level	
Form	**Category**	**Male**	**Female**	**Grade 8**	**Grade 9**
Reading	# Items Reached by 80%	34	34	31	40
	# Items in Section	42	42	42	42
	% Completing 75%	84.30	84.46	78.53	88.55
	% Completing Section	73.93	71.86	64.30	79.04
	Mean Not Reached	3.50	3.49	4.76	2.60
	SD Not Reached	6.95	6.64	7.65	5.97
Writing and Language	# Items Reached by 80%	36	38	33	40
	# Items in Section	40	40	40	40
	% Completing 75%	88.03	90.79	85.04	92.52
	% Completing Section	75.83	76.10	68.56	81.26
	Mean Not Reached	2.82	2.29	3.52	1.86
	SD Not Reached	6.20	5.27	6.62	4.96
Math – No Calculator	# Items Reached by 80%	10	10	10	10
	# Items in Section	13	13	13	13
	% Completing 75%	95.89	95.41	93.47	97.20
	% Completing Section	55.91	53.49	48.77	58.90
	Mean Not Reached	1.22	1.25	1.48	1.07
	SD Not Reached	1.70	1.67	1.83	1.55
Math – Calculator	# Items Reached by 80%	21	21	21	21
	# Items in Section	25	25	25	25
	% Completing 75%	91.60	91.80	87.93	94.39
	% Completing Section	53.01	51.10	46.11	56.29
	Mean Not Reached	2.16	2.14	2.67	1.78
	SD Not Reached	3.34	3.16	3.69	2.85

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Table A-6.17.13: Timed Section Completion Rate Statistics by Race/Ethnicity for PSAT 8/9 Form 2

Form	Category	White	Black	Hispanic	Asian	AIAN	Two or More Races
Reading	# Items Reached by 80%	42	42	42	42	42	42
	# Items in Section	42	42	42	42	42	42
	% Completing 75%	98.39	91.86	90.87	96.94	95.70	96.06
	% Completing Section	94.28	82.92	80.27	90.38	90.38	89.71
	Mean Not Reached	0.49	2	2.24	0.87	1.09	1.05
	SD Not Reached	2.45	5.28	5.41	3.23	3.90	3.79
Writing and Language	# Items Reached by 80%	40	40	40	40	40	40
	# Items in Section	40	40	40	40	40	40
	% Completing 75%	98.53	92.24	91.83	96.97	95.65	96.38
	% Completing Section	94.63	83.52	81.78	90.43	90.75	90.48
	Mean Not Reached	0.42	1.85	1.96	0.82	1.03	0.95
	SD Not Reached	2.29	5.15	5.16	3.26	3.96	3.74
Math – No Calculator	# Items Reached by 80%	12	10	10	12	10	10
	# Items in Section	13	13	13	13	13	13
	% Completing 75%	99.58	98.32	97.89	99.39	99.03	99
	% Completing Section	72.29	54.60	56.07	69.82	66.48	64.88
	Mean Not Reached	0.62	1.19	1.14	0.66	0.86	0.86
	SD Not Reached	1.15	1.51	1.53	1.16	1.38	1.34
Math – Calculator	# Items Reached by 80%	24	21	21	22	22	22
	# Items in Section	25	25	25	25	25	25
	% Completing 75%	98.66	95.24	93.82	97.84	97.69	97.04
	% Completing Section	73.70	55.64	55.42	65.18	69.02	66.42
	Mean Not Reached	0.82	1.80	1.86	1.10	1.18	1.22
	SD Not Reached	1.76	2.74	2.84	1.99	2.34	2.29

Note: AIAN stands for American Indian/Alaska Native.

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Table A-6.17.14: Timed Section Completion Rate Statistics by Gender and Grade Level for PSAT 8/9 Form 2

		Gender		Grade Level	
Form	**Category**	**Male**	**Female**	**Grade 8**	**Grade 9**
Reading	# Items Reached by 80%	42	42	42	42
	# Items in Section	42	42	42	42
	% Completing 75%	95.89	96.35	92.78	96.83
	% Completing Section	90.56	89.94	83.26	91.72
	Mean Not Reached	1.04	0.99	1.84	0.84
	SD Not Reached	3.87	3.60	4.98	3.39
Writing and Language	# Items Reached by 80%	40	40	40	40
	# Items in Section	40	40	40	40
	% Completing 75%	96.05	96.80	93.50	97.05
	% Completing Section	90.78	90.90	84.35	92.20
	Mean Not Reached	0.98	0.82	1.59	0.75
	SD Not Reached	3.83	3.30	4.70	3.27
Math – No Calculator	# Items Reached by 80%	11	11	10	11
	# Items in Section	13	13	13	13
	% Completing 75%	99.15	99.08	98.20	99.30
	% Completing Section	67.96	66.09	62.01	68.06
	Mean Not Reached	0.78	0.80	0.94	0.76
	SD Not Reached	1.31	1.30	1.43	1.27
Math – Calculator	# Items Reached by 80%	22	22	21	22
	# Items in Section	25	25	25	25
	% Completing 75%	97.52	97.17	94.85	97.86
	% Completing Section	68.80	66.89	60.79	69.32
	Mean Not Reached	1.14	1.16	1.57	1.06
	SD Not Reached	2.22	2.18	2.70	2.07

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Figure A-6.1: CSEMs of the scale scores for SAT Reading

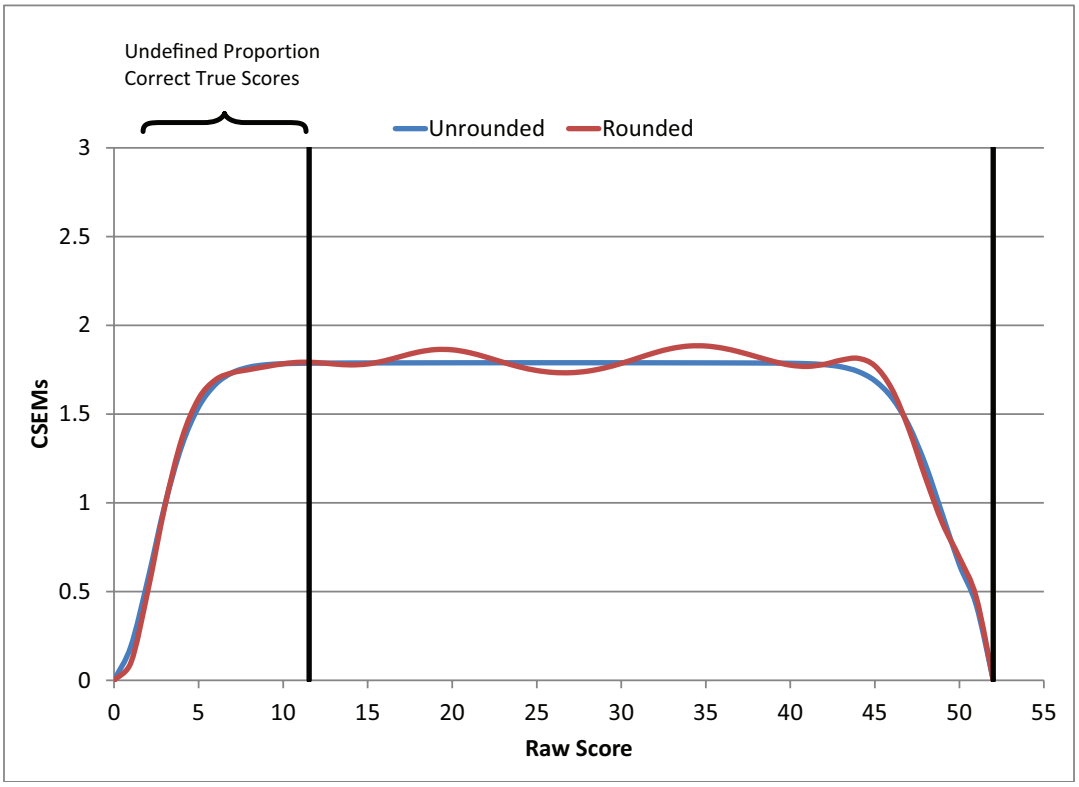
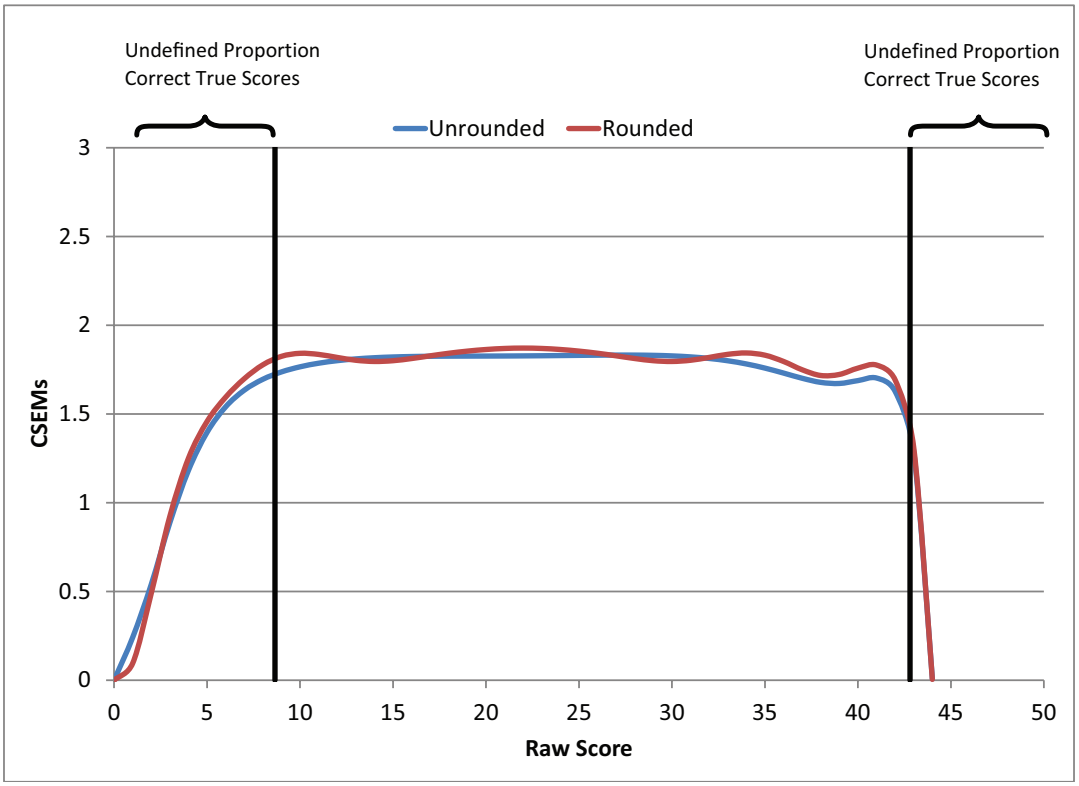


Figure A-6.2: CSEMs of the scale scores for SAT Writing



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Figure A-6.3: CSEMs of the scale scores for SAT Math

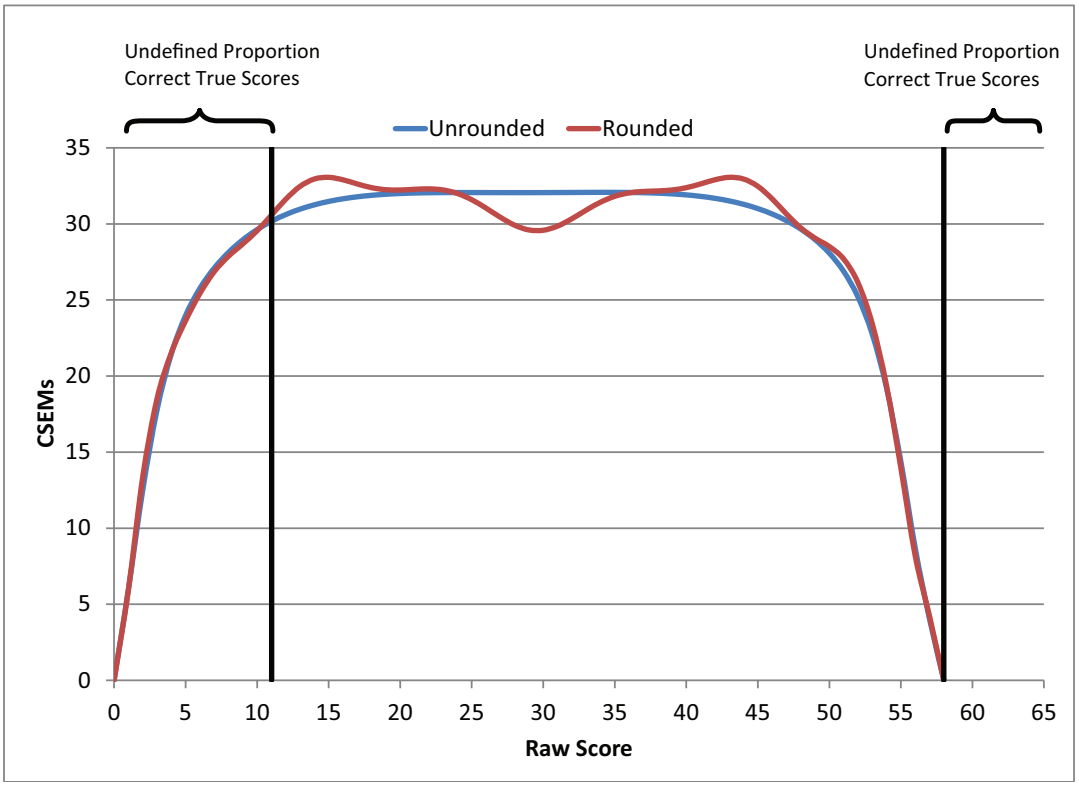
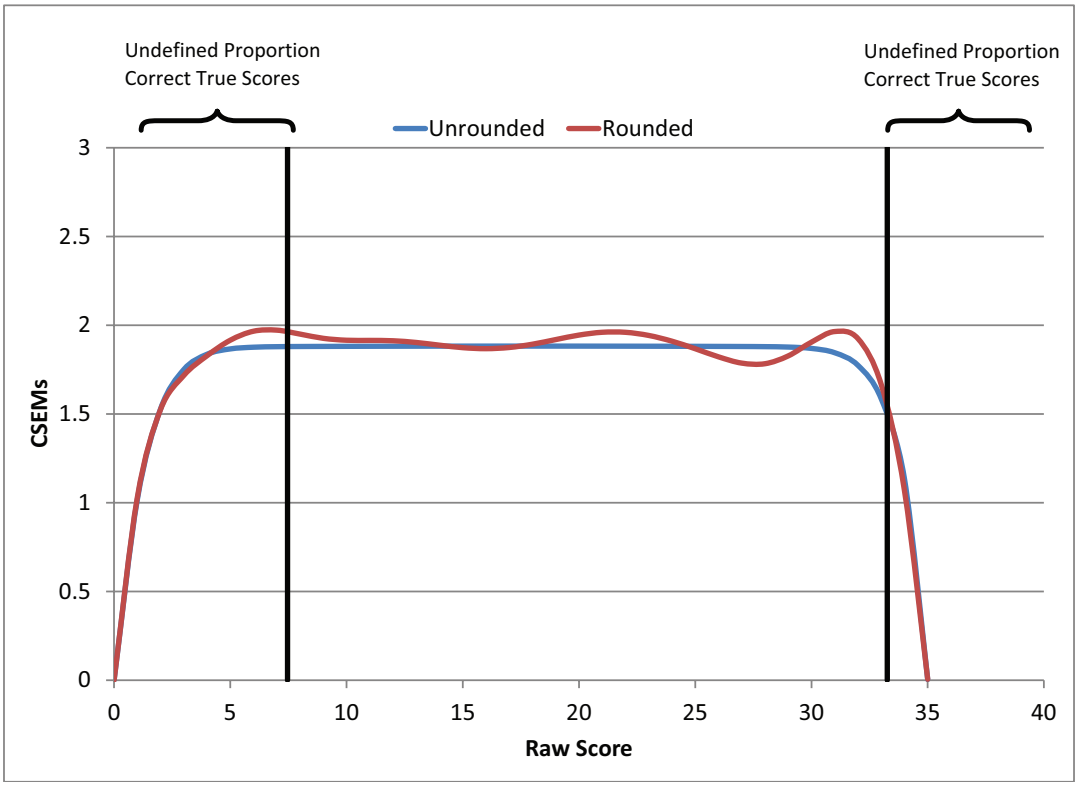


Figure A-6.4: CSEMs of the scale scores for SAT Analysis in Science



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Figure A-6.5: CSEMs of the scale scores for SAT Analysis in History/Social Studies

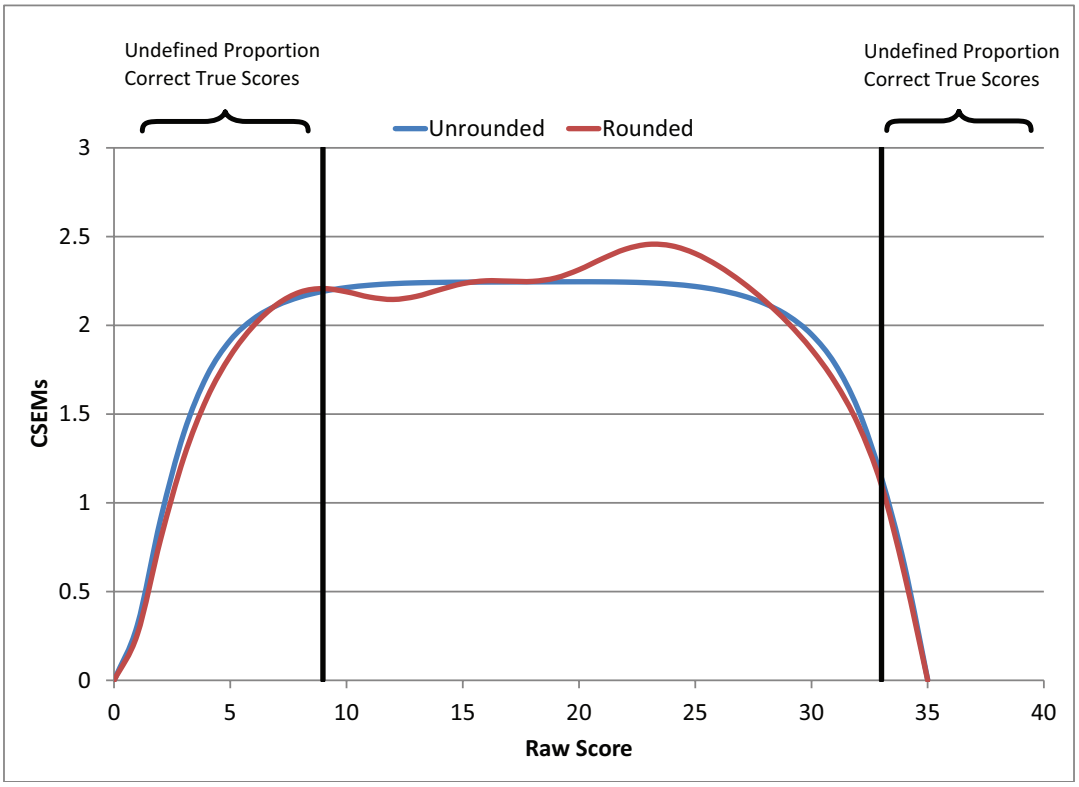
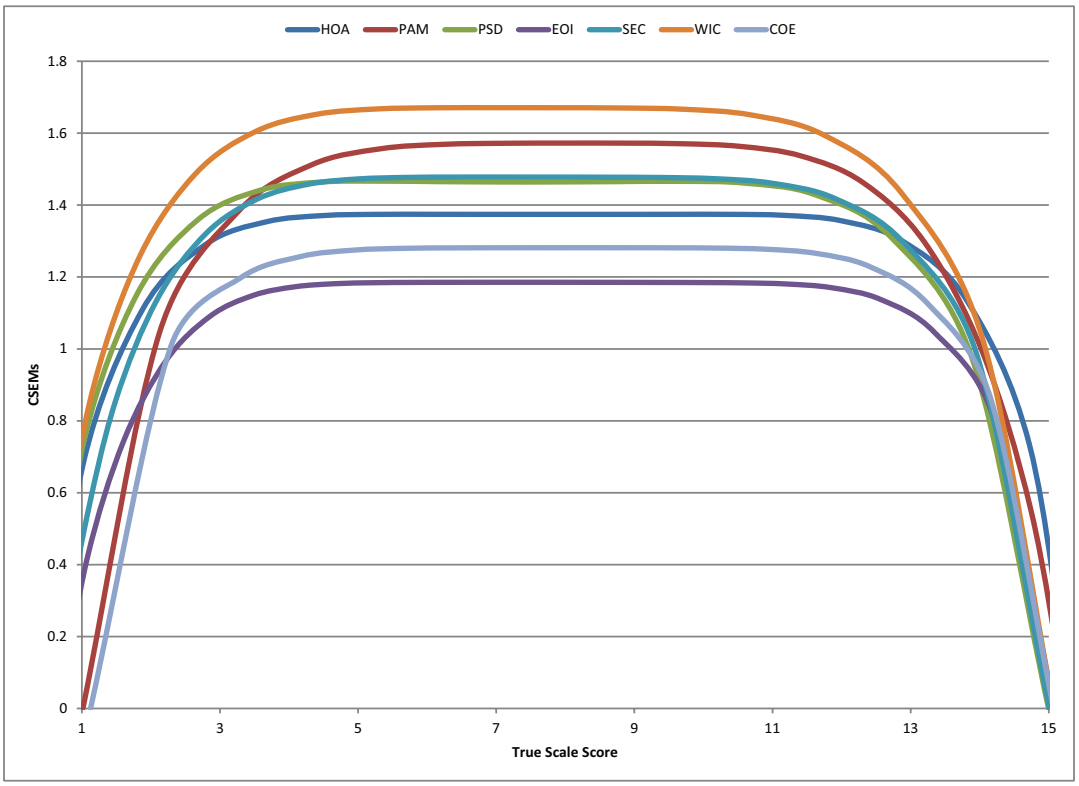
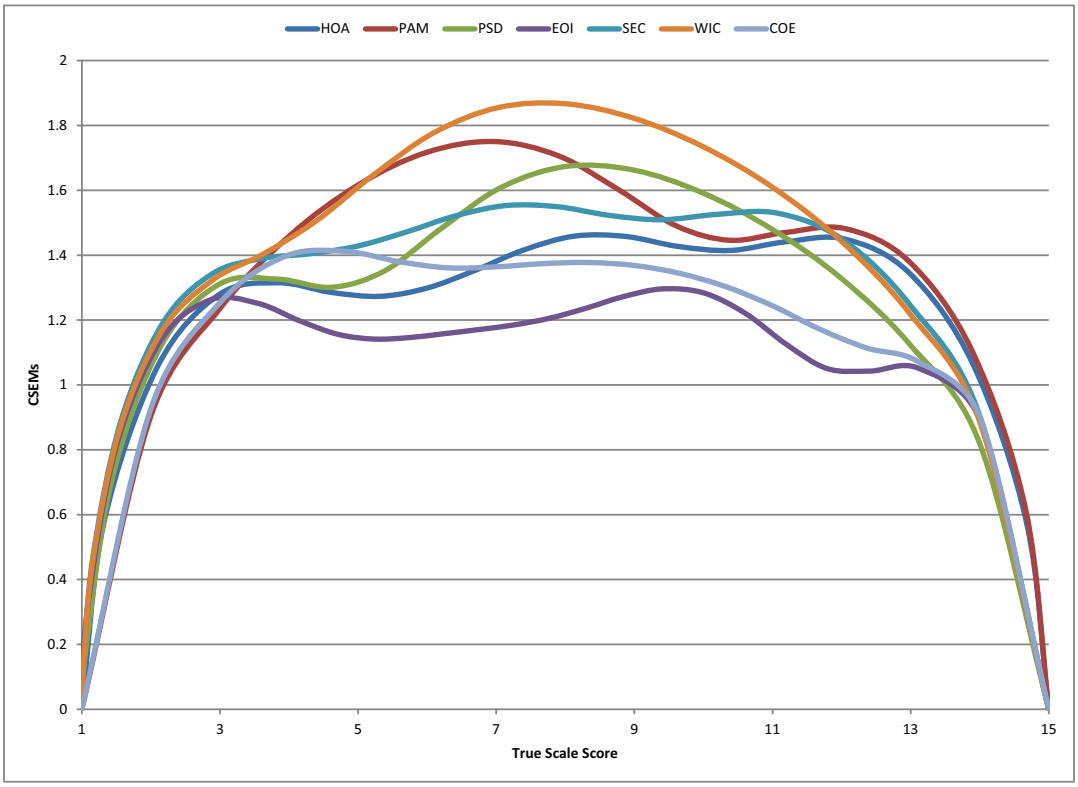


Figure A-6.6: CSEMs of the unrounded scale scores for SAT subscores



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Figure A-6.7: CSEMs of the rounded scale scores for SAT subscores



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Figure A-6.8: Scale score statistics and distributions for the base form and new form

Figure A-6.8.1: Base form Math

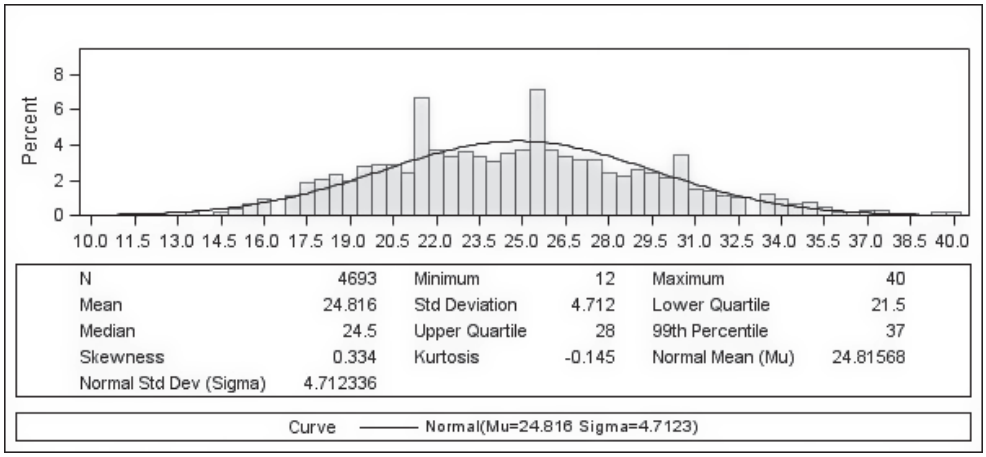


Figure A-6.8.2: New form Math

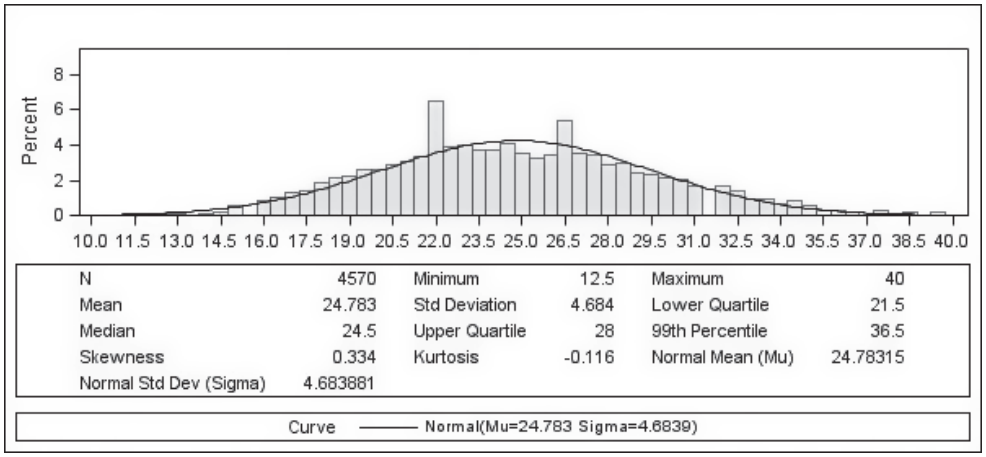


Figure A-6.8.3: Base form Reading

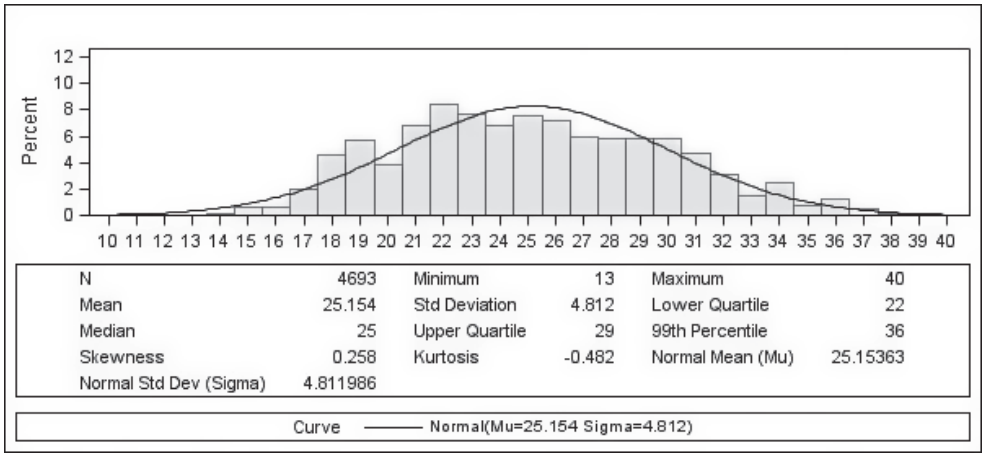


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Figure A-6.8.4: New form Reading

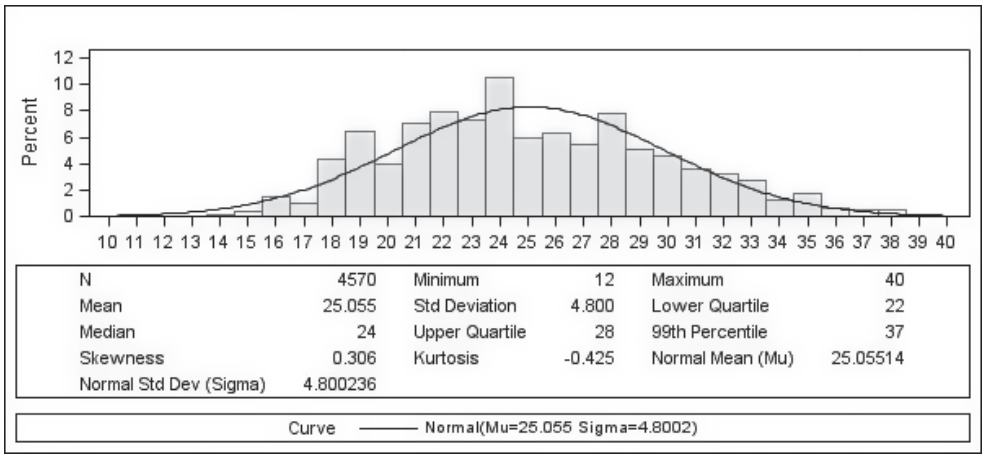


Figure A-6.8.5: Base form Writing and Language

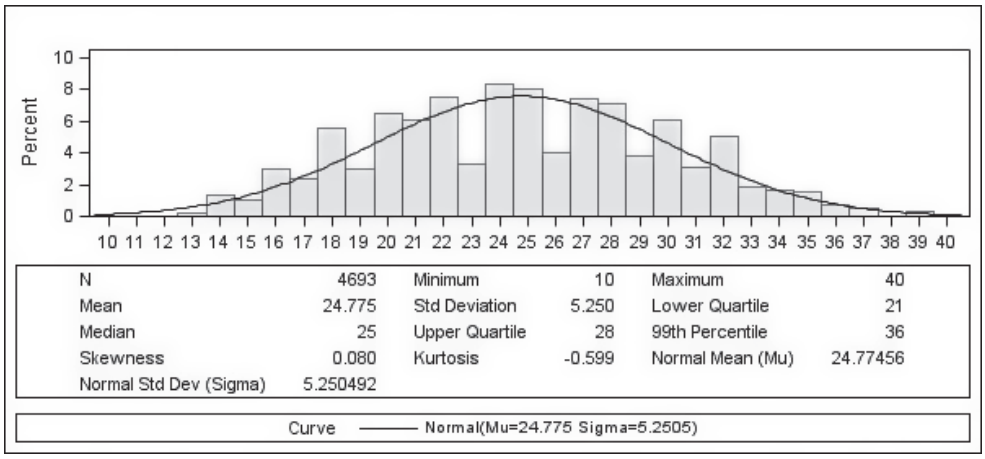


Figure A-6.8.6: New form Writing and Language

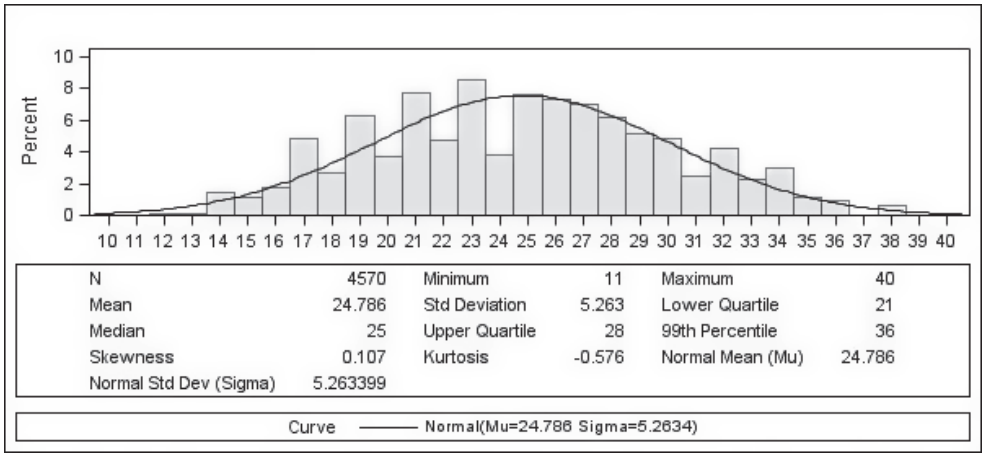


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Figure A-6.8.7: Base form Science

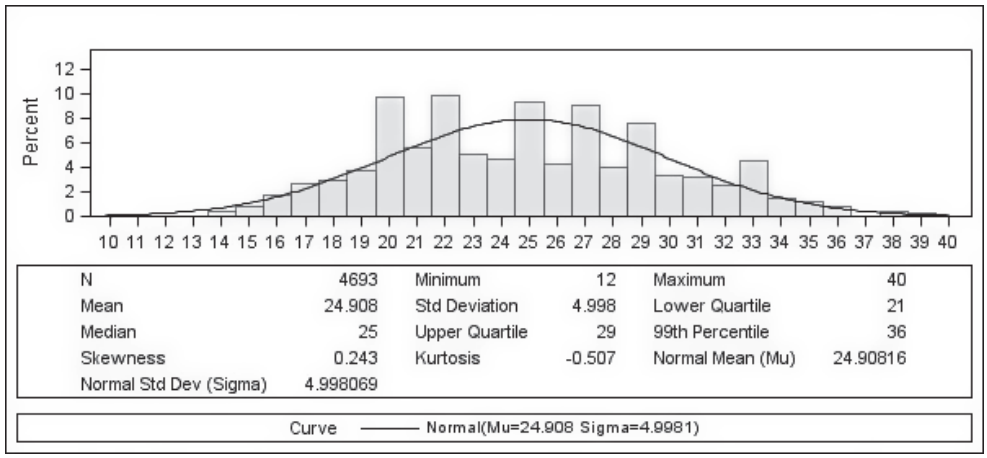


Figure A-6.8.8: New form Science

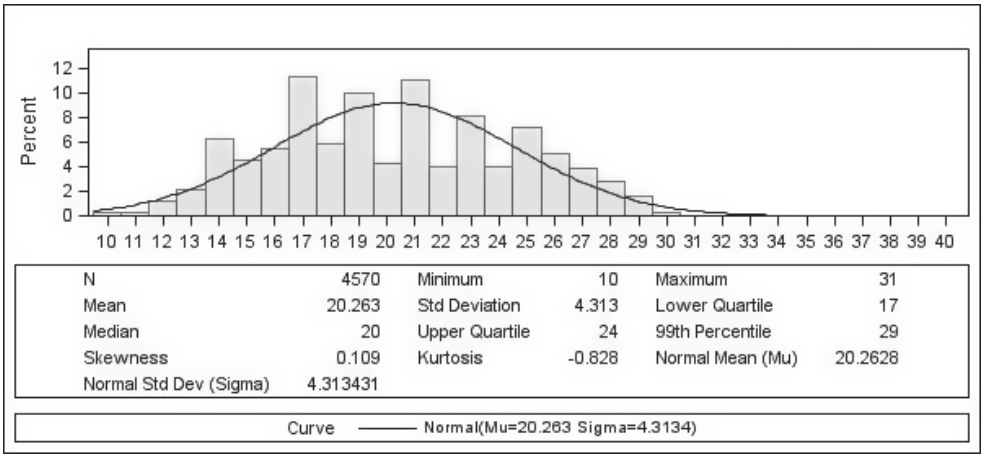


Figure A-6.8.9: Base form History/Social Studies

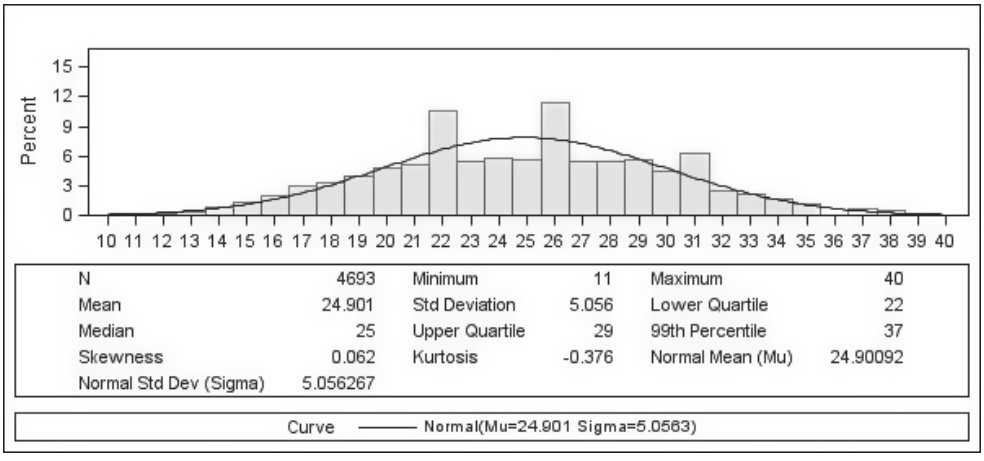


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Figure A-6.8.10: New form History/Social Studies

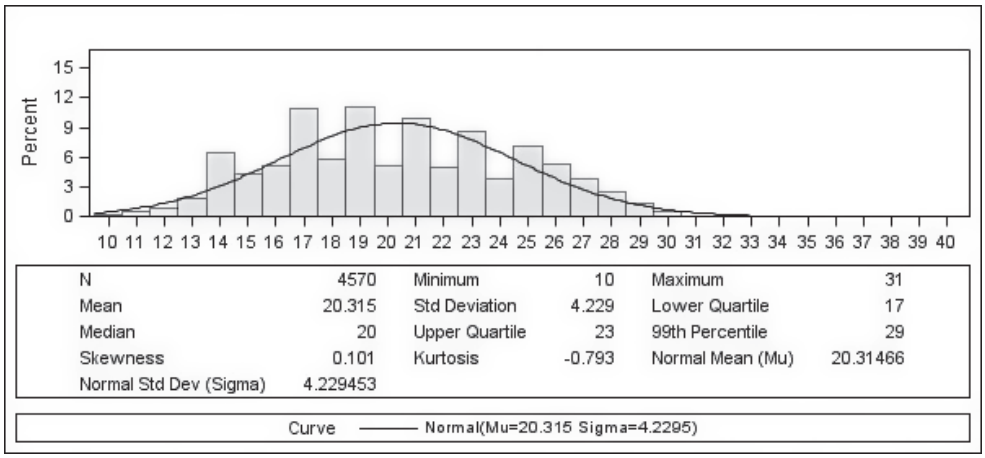


Figure A-6.8.11: Base form Command of Evidence

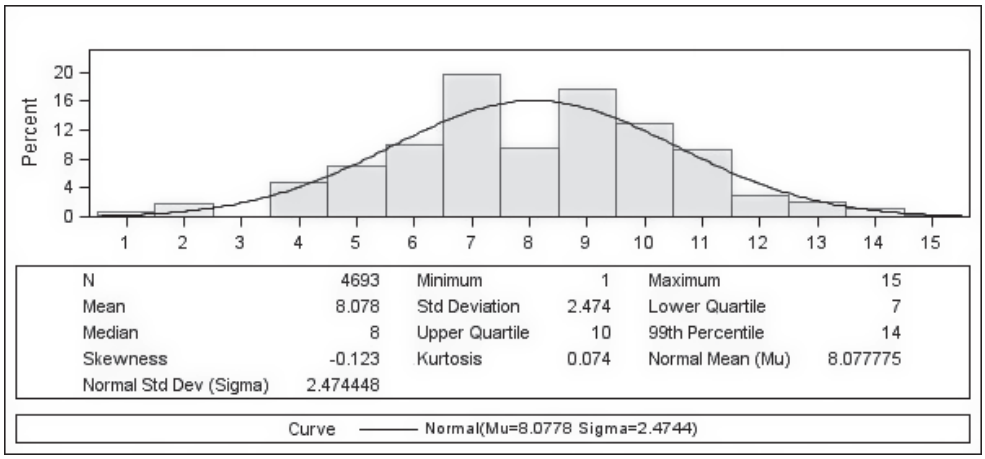


Figure A-6.8.12: New form Command of Evidence

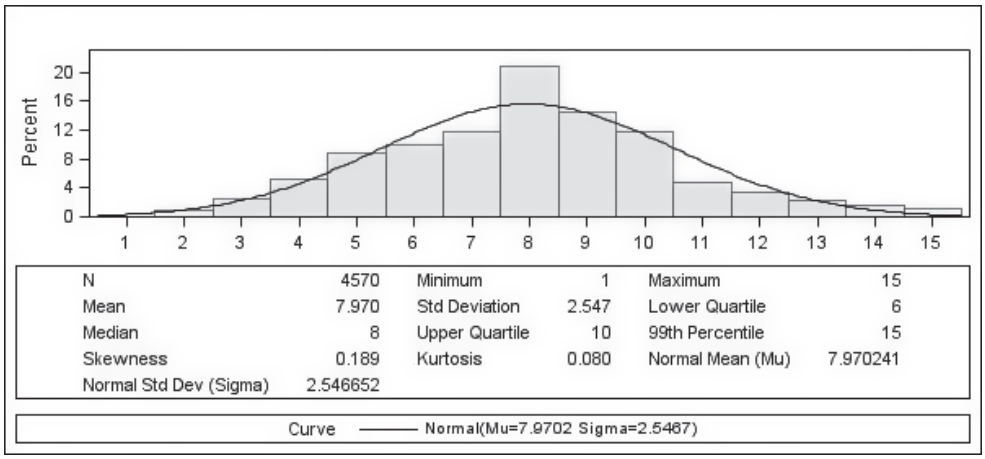


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Figure A-6.8.13: Base form Relevant Words in Context

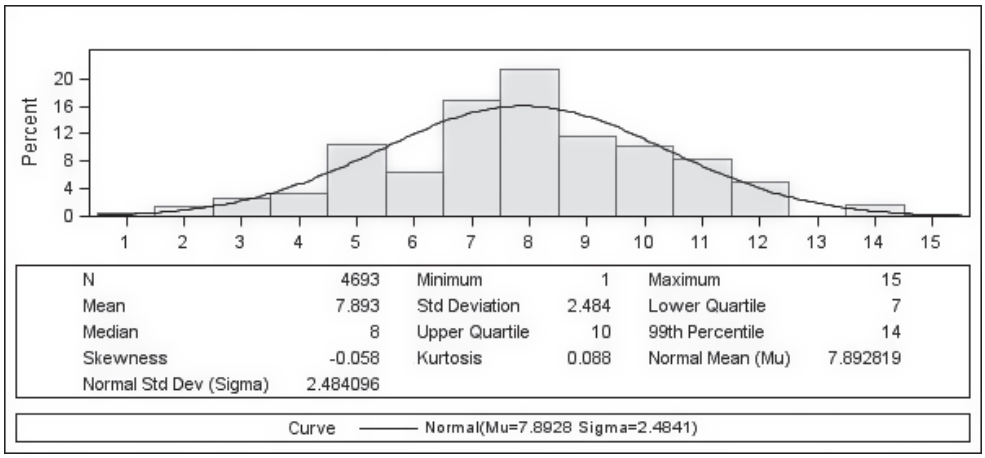


Figure A-6.8.14: New form Relevant Words in Context

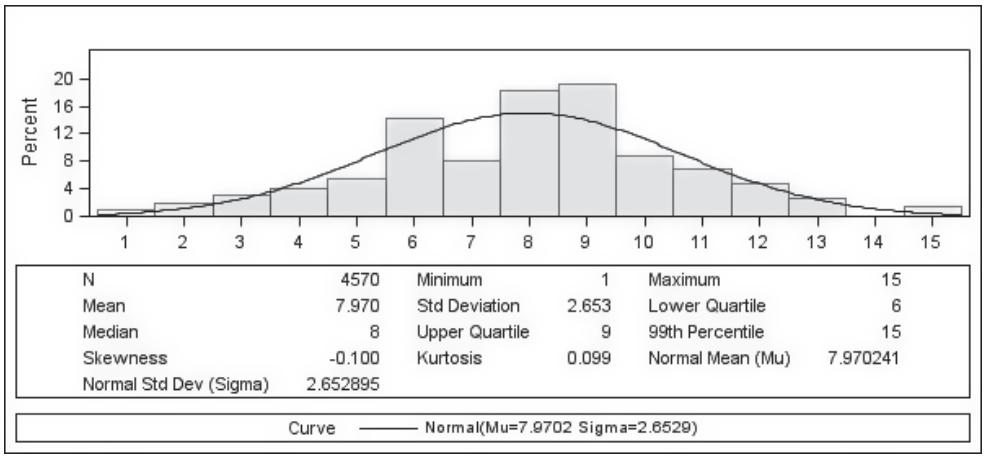


Figure A-6.8.15: Base form Expression of Ideas

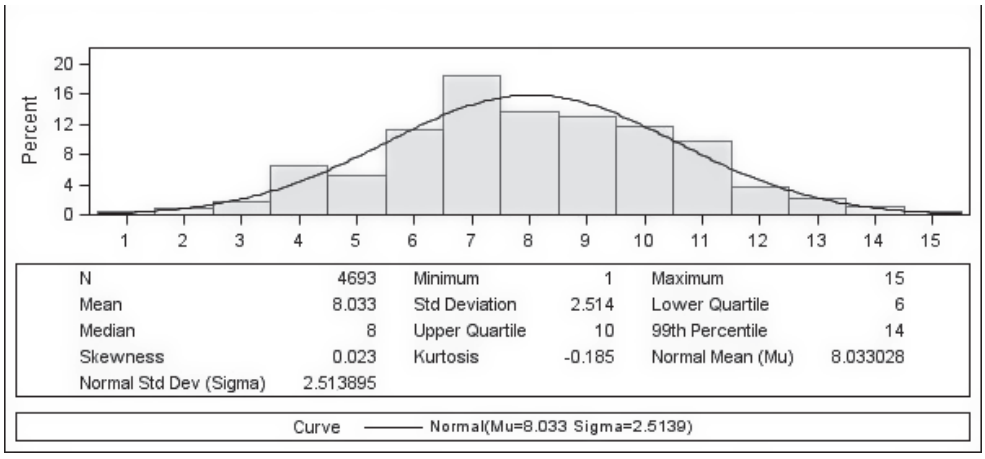


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Figure A-6.8.16: New form Expression of Ideas

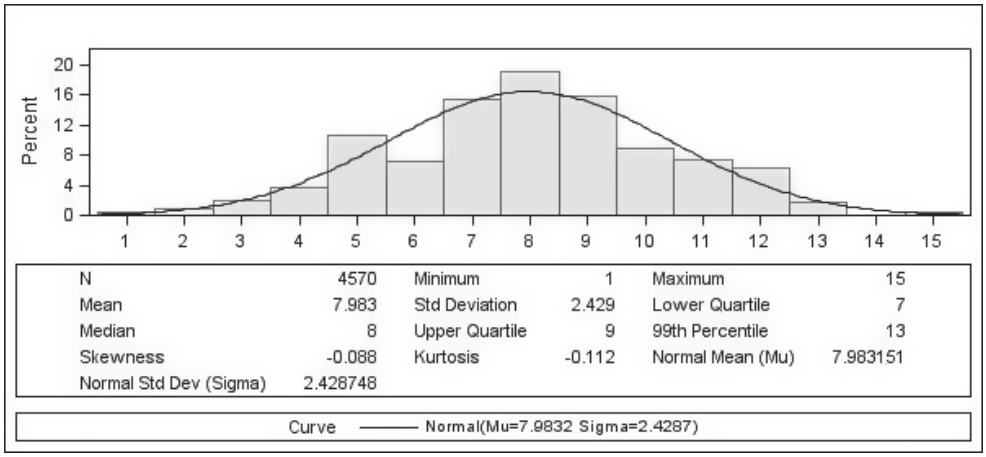


Figure A-6.8.17: Base form Standard English Conventions

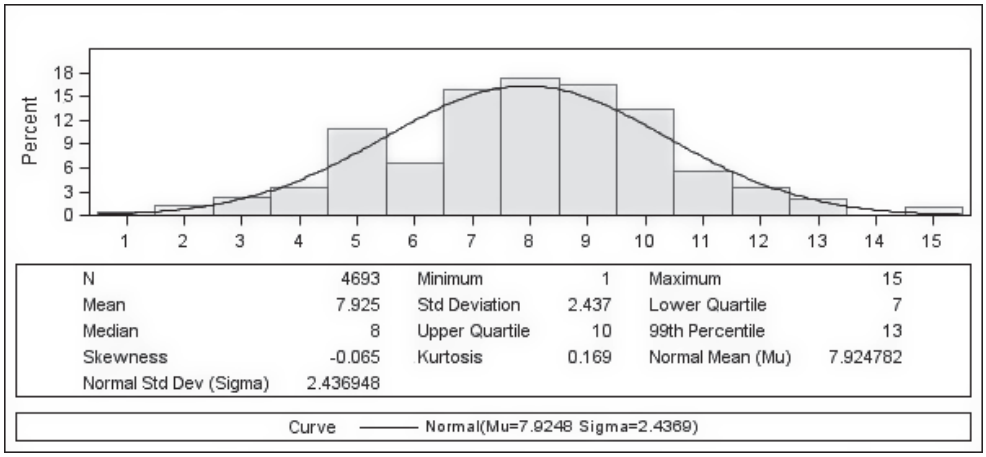


Figure A-6.8.18: New form Standard English Conventions

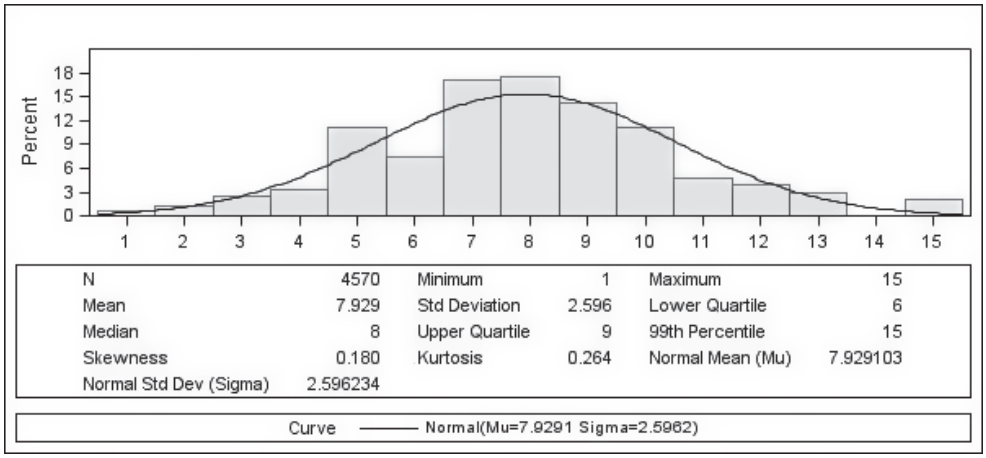


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Figure A-6.8.19: Base form Heart of Algebra

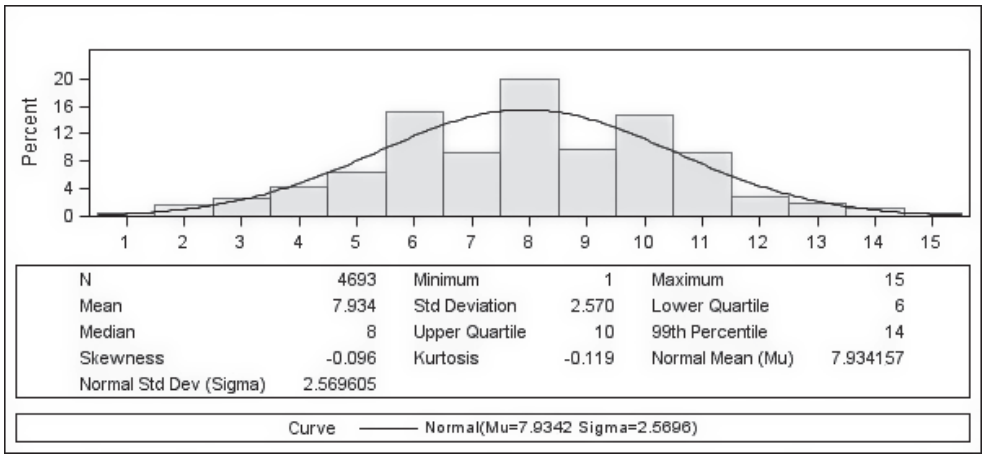


Figure A-6.8.20: New form Heart of Algebra

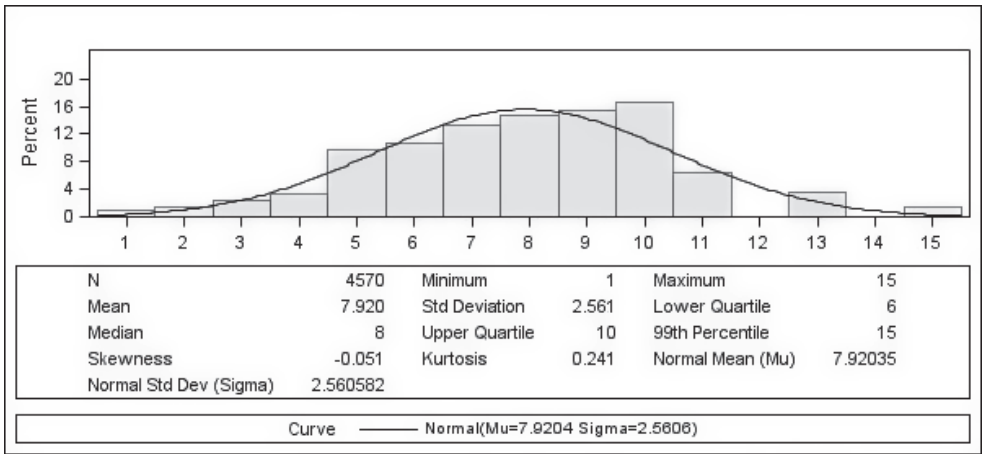


Figure A-6.8.21: Base form Problem Solving and Data Analysis

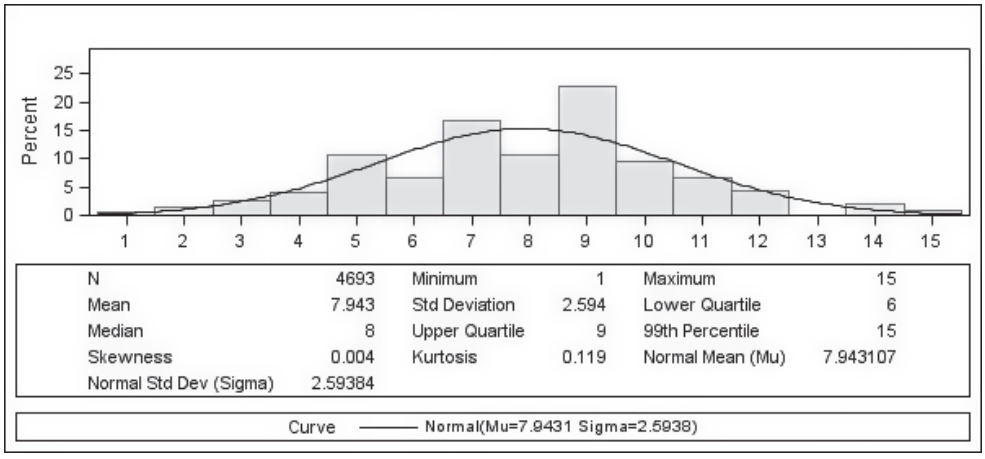


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Figure A-6.8.22: New form Problem Solving and Data Analysis

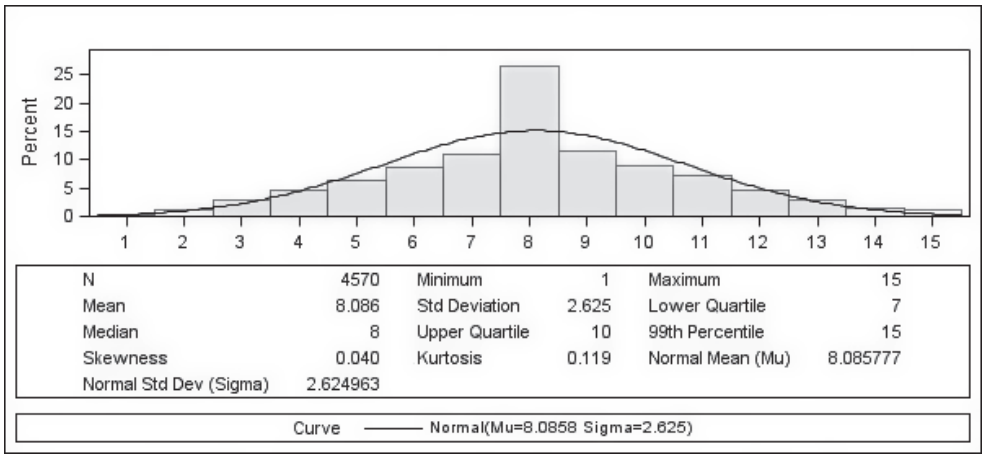


Figure A-6.8.23: Base form Passport to Advanced Mathematics

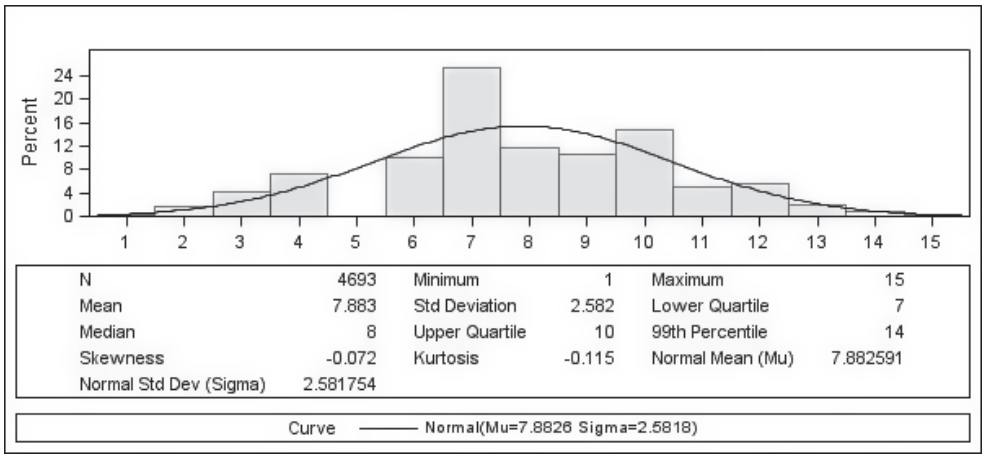


Figure A-6.8.24: New form Passport to Advanced Mathematics

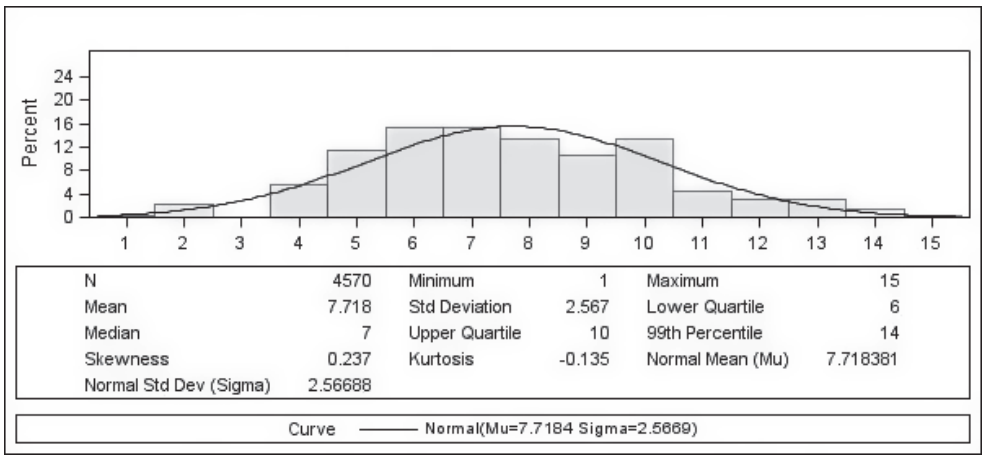


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Figure A-6.8.25: Base form Math section

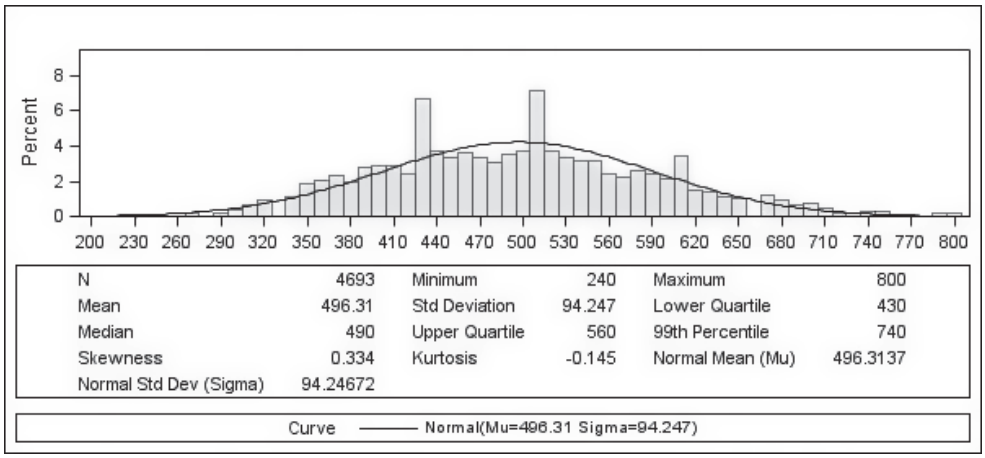


Figure A-6.8.26: New form Math section

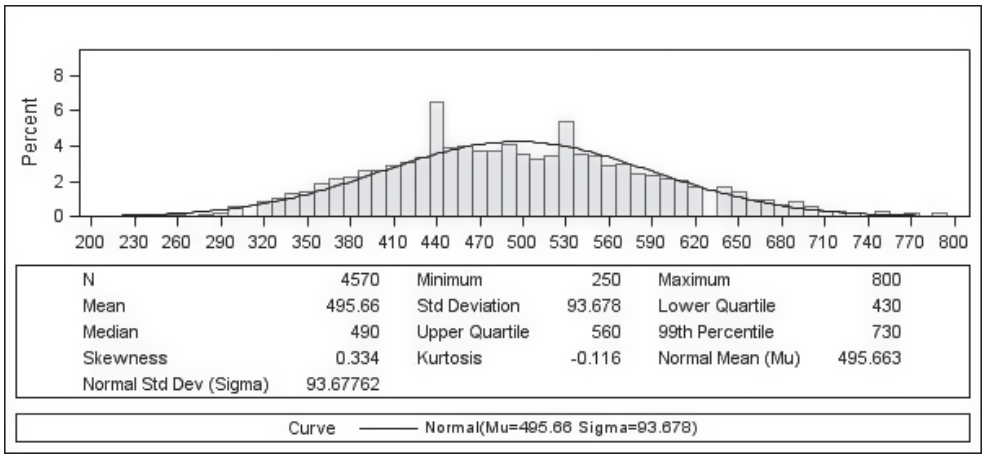


Figure A-6.8.27: Base form Evidence-Based Reading and Writing section

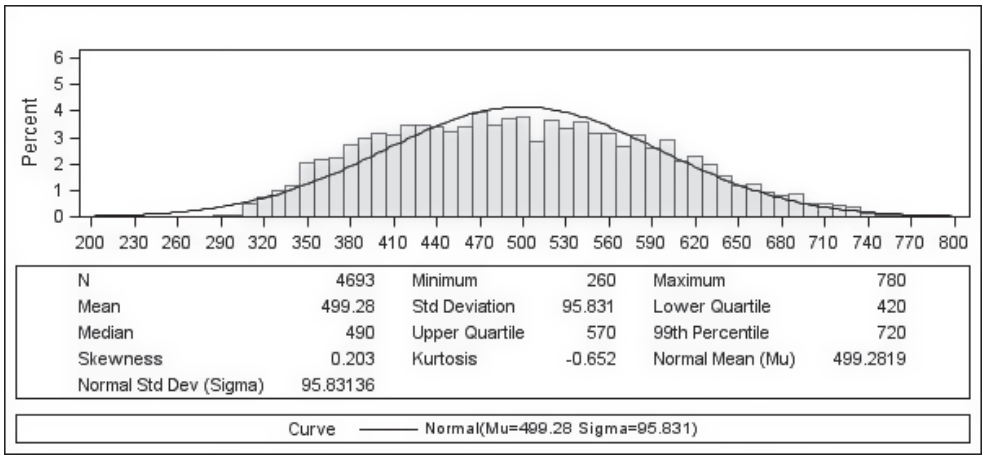


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Figure A-6.8 continued from previous page

Figure A-6.8.28: New form Evidence-Based Reading and Writing section

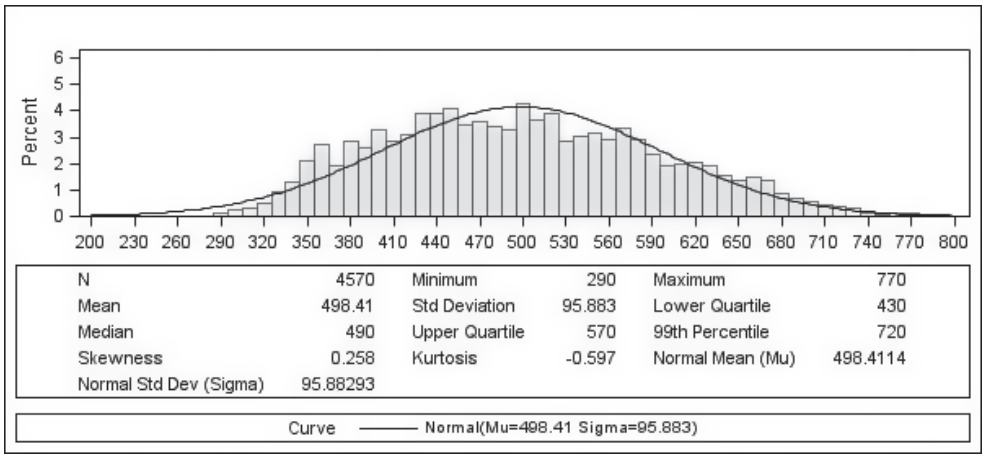


Figure A-6.8.29: Base form Total Score

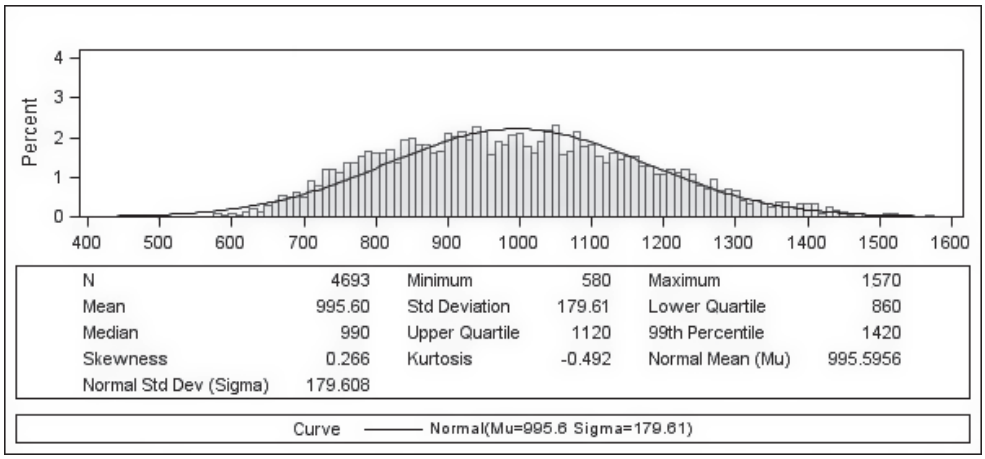
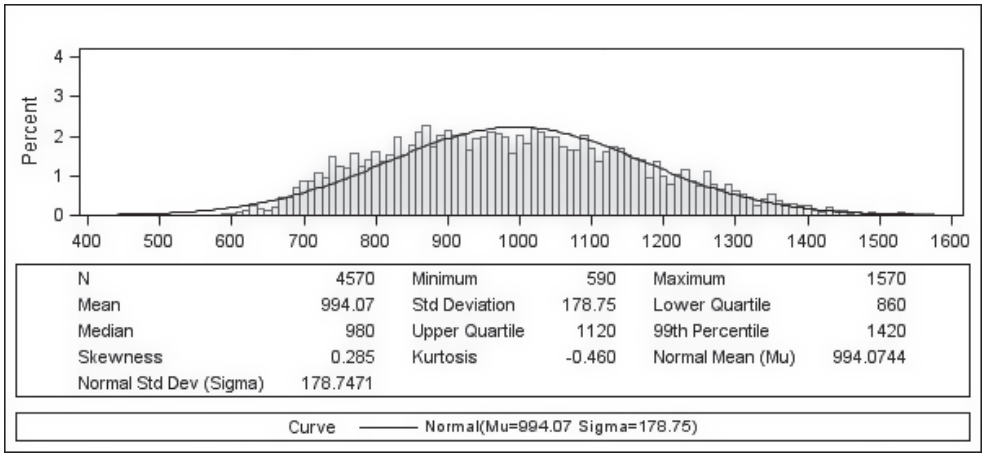


Figure A-6.8.30: New form Total Score



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Figure A-6.9: Conditional standard errors of measurement graphs for SAT Form 1

Figure A-6.9.1: Conditional standard errors of measurement for Reading

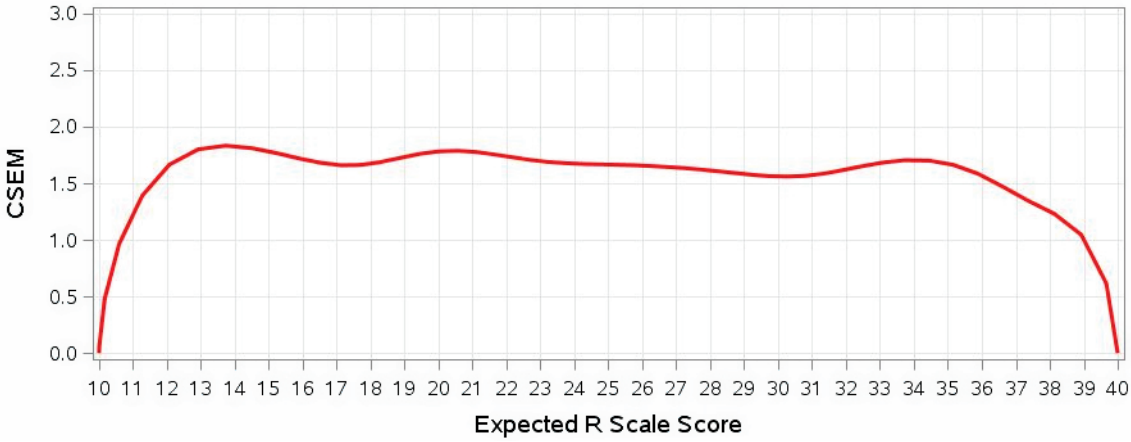


Figure A-6.9.2: Conditional standard errors of measurement for Writing and Language

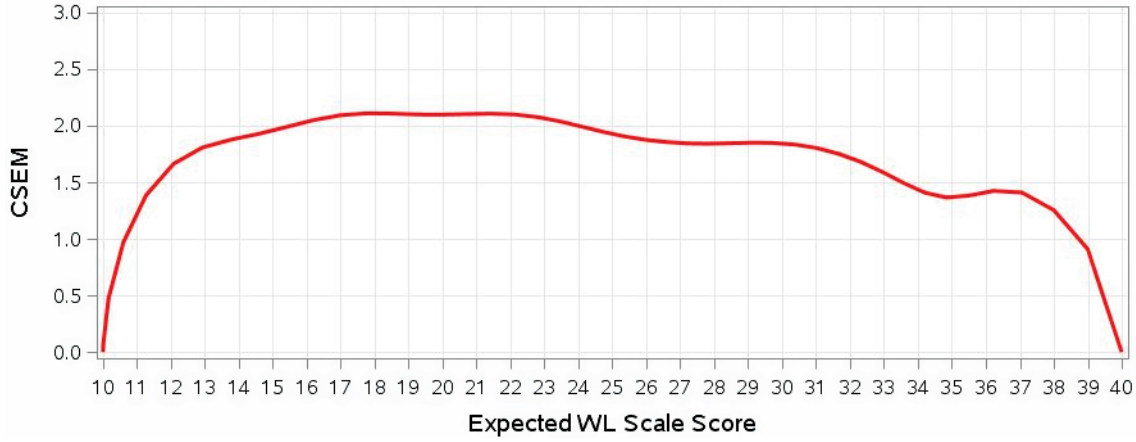


Figure A-6.9.3: Conditional standard errors of measurement for Math section score



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Figure A-6.9 continued from previous page

Figure A-6.9.4: Conditional standard errors of measurement for Analysis in History/Social Studies

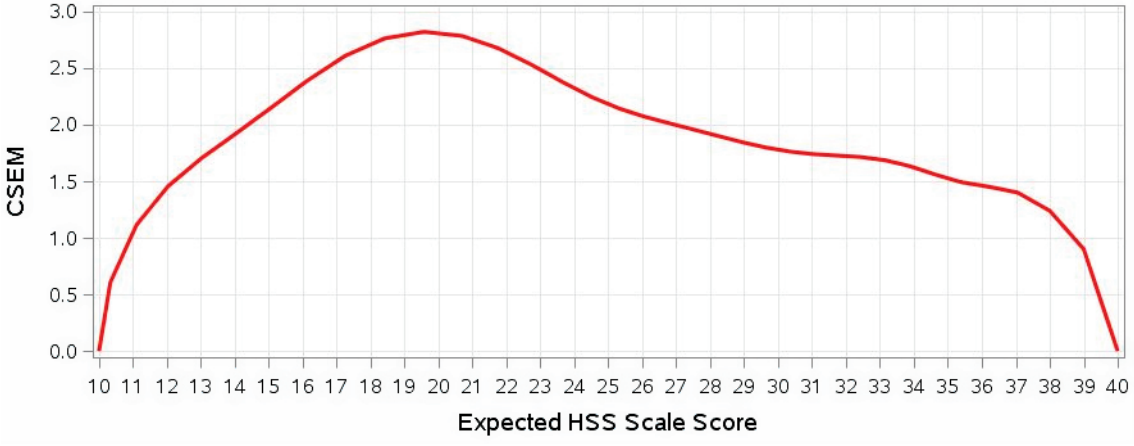


Figure A-6.9.5: Conditional standard errors of measurement for Analysis in Science

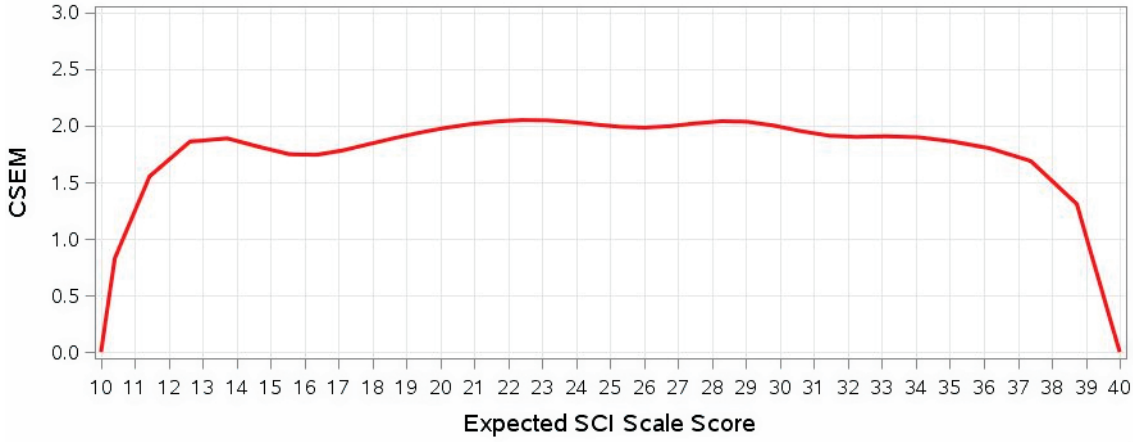


Figure A-6.9.6: Conditional standard errors of measurement for Expression of Ideas

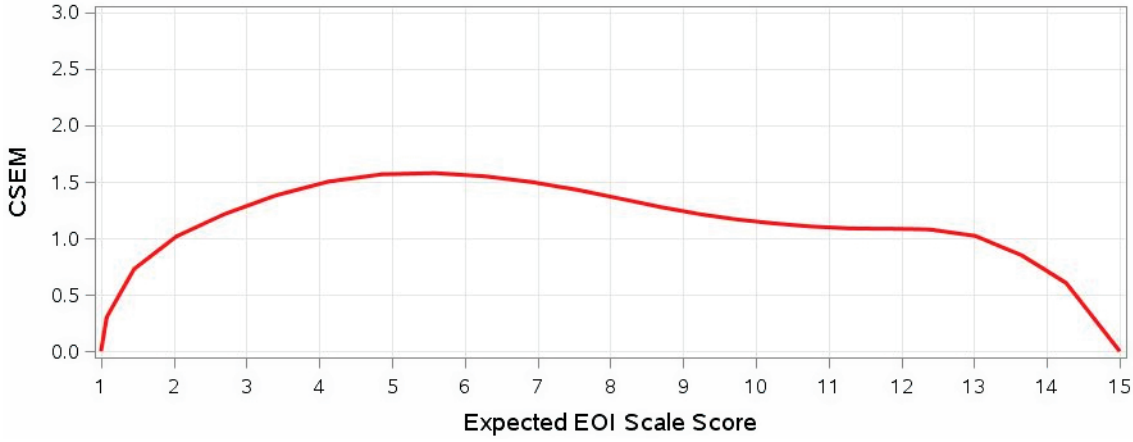


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Figure A-6.9 continued from previous page

Figure A-6.9.7: Conditional standard errors of measurement for Standard English Conventions

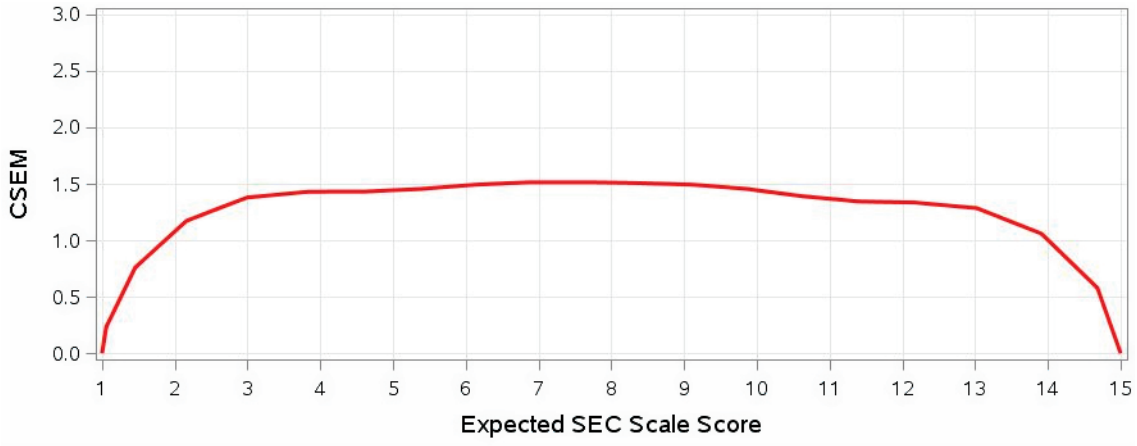


Figure A-6.9.8: Conditional standard errors of measurement for Command of Evidence

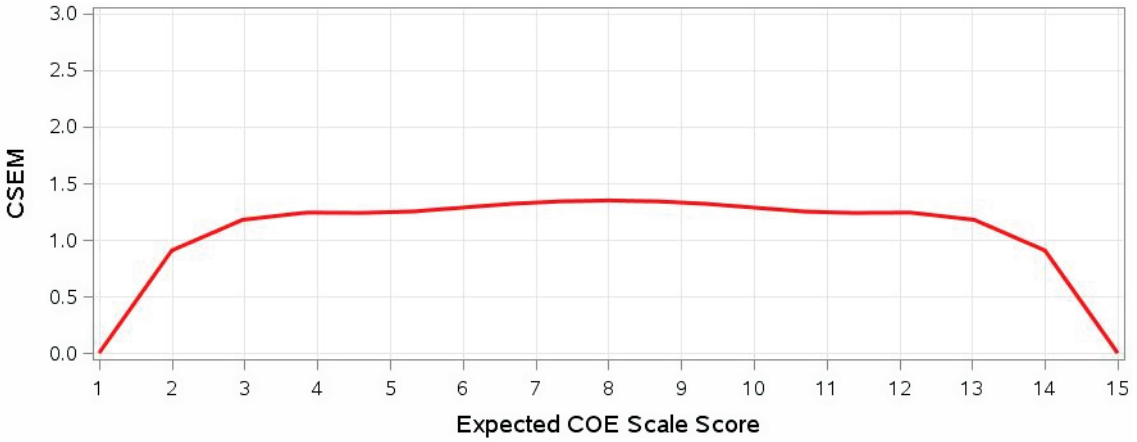


Figure A-6.9.9: Conditional standard errors of measurement for Words in Context

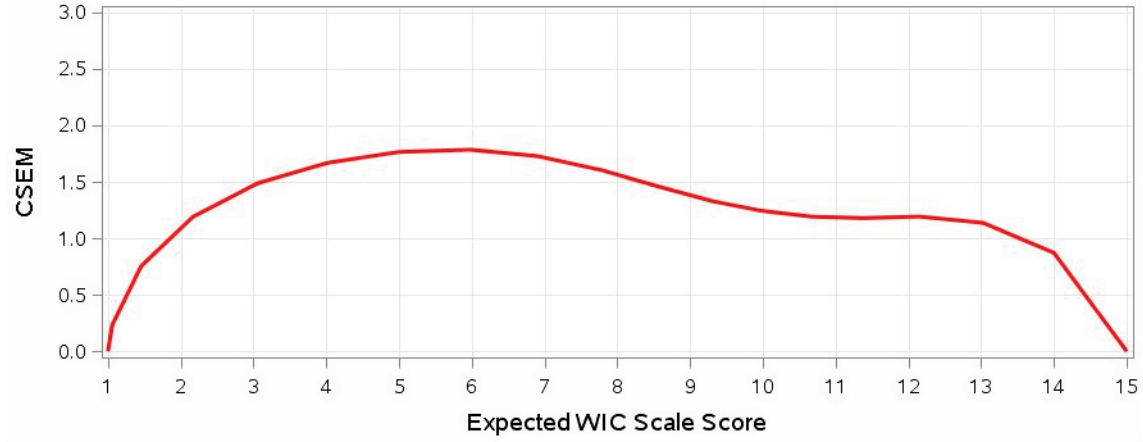


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Figure A-6.9 continued from previous page

Figure A-6.9.10: Conditional standard errors of measurement for Heart of Algebra

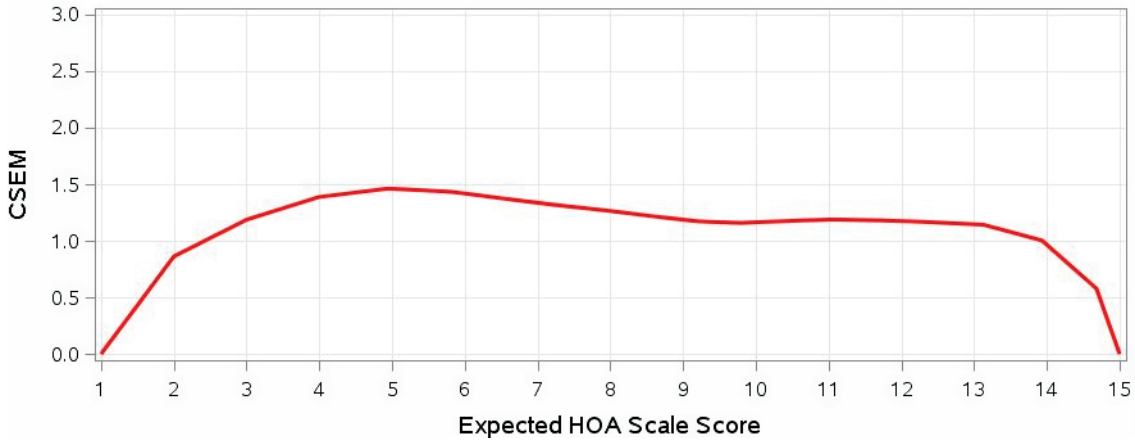
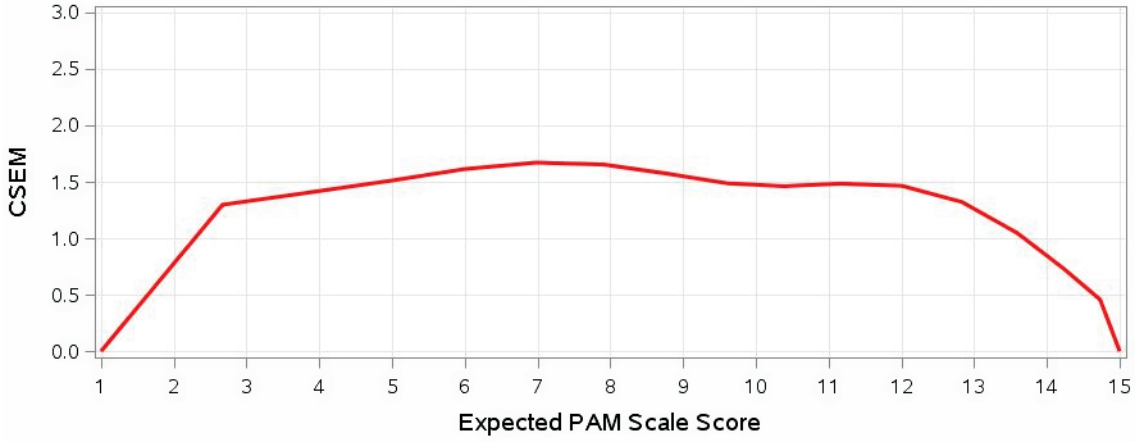


Figure A-6.9.11: Conditional standard errors of measurement for Problem Solving and Data Analysis



Figure A-6.9.12: Conditional standard errors of measurement for Passport to Advanced Math



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Figure A-6.10: Conditional standard errors of measurement graphs for SAT Form 2

Figure A-6.10.1: Conditional standard errors of measurement for Reading

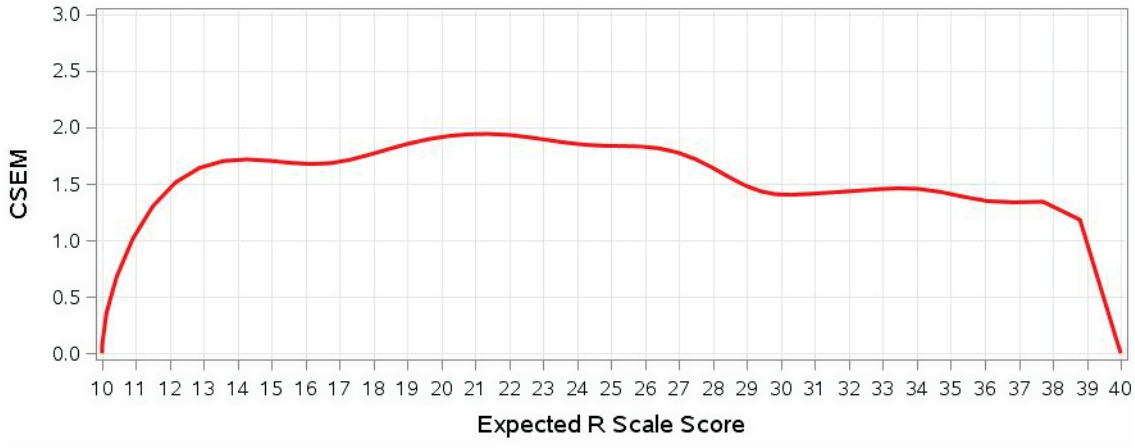


Figure A-6.10.2: Conditional standard errors of measurement for Writing and Language

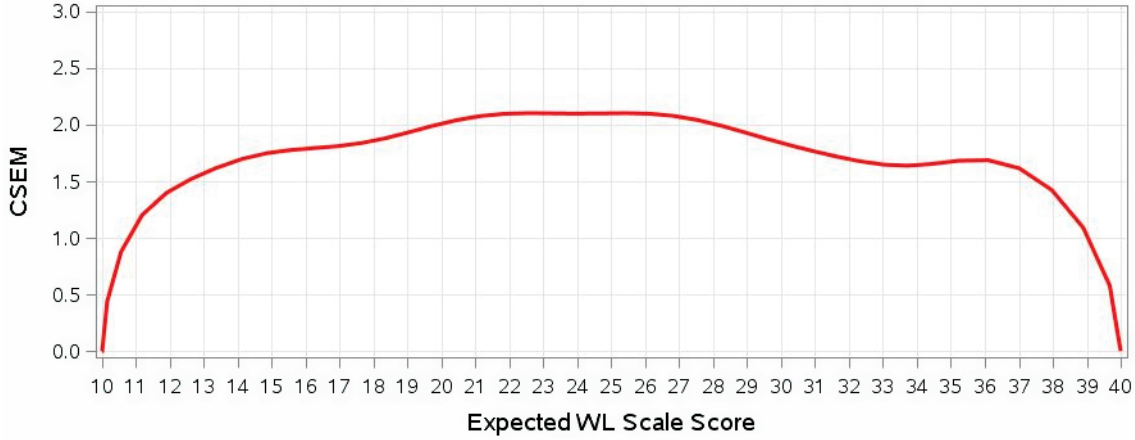


Figure A-6.10.3: Conditional standard errors of measurement for Analysis in History/Social Studies

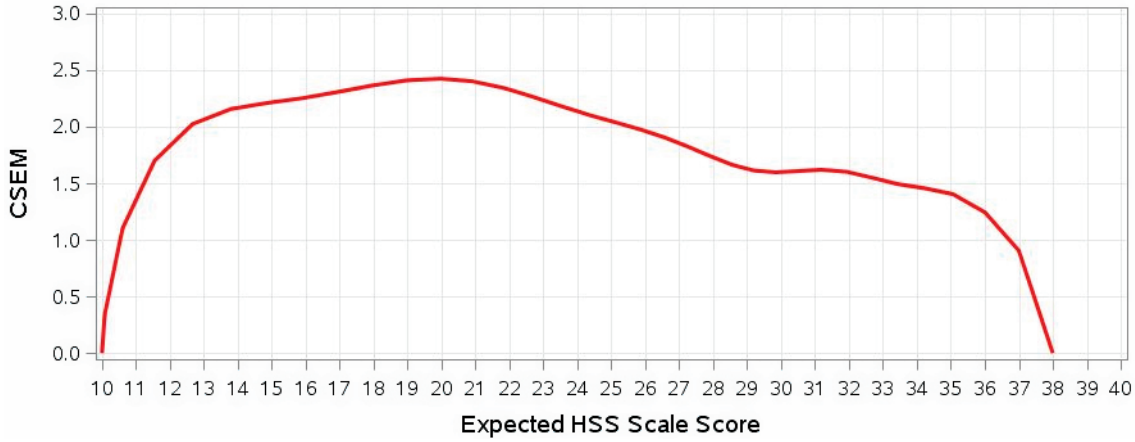


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Figure A-6.10.4 Conditional standard errors of measurement for Analysis in Science

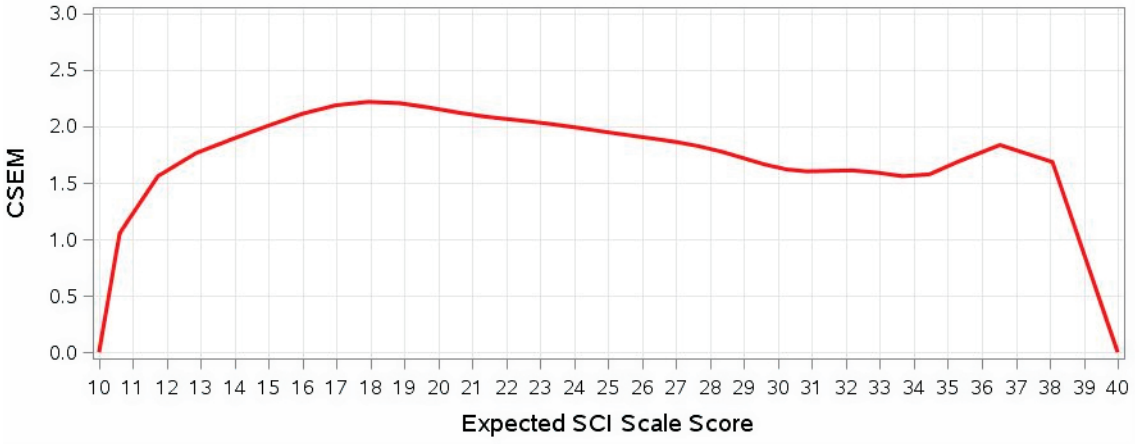


Figure A-6.10.5: Conditional standard errors of measurement for Command of Evidence

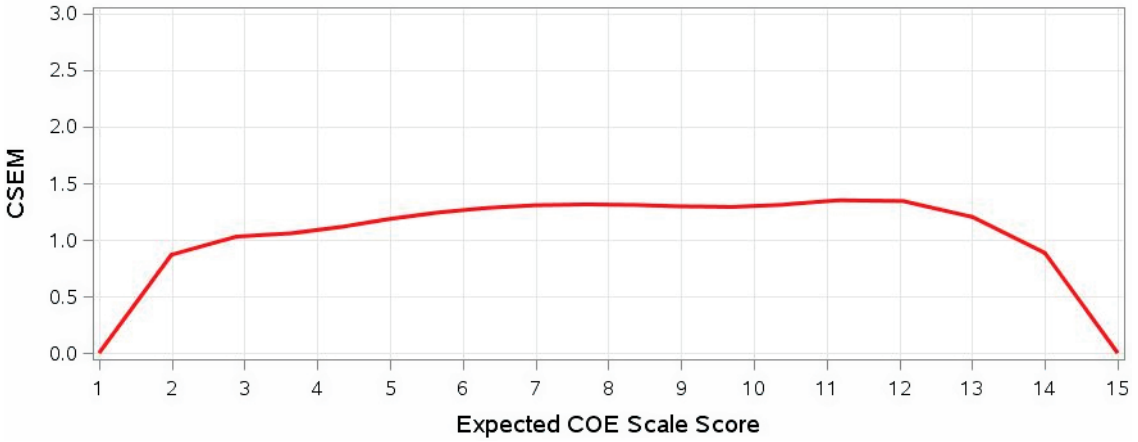


Figure A-6.10.6: Conditional standard errors of measurement for Words in Context

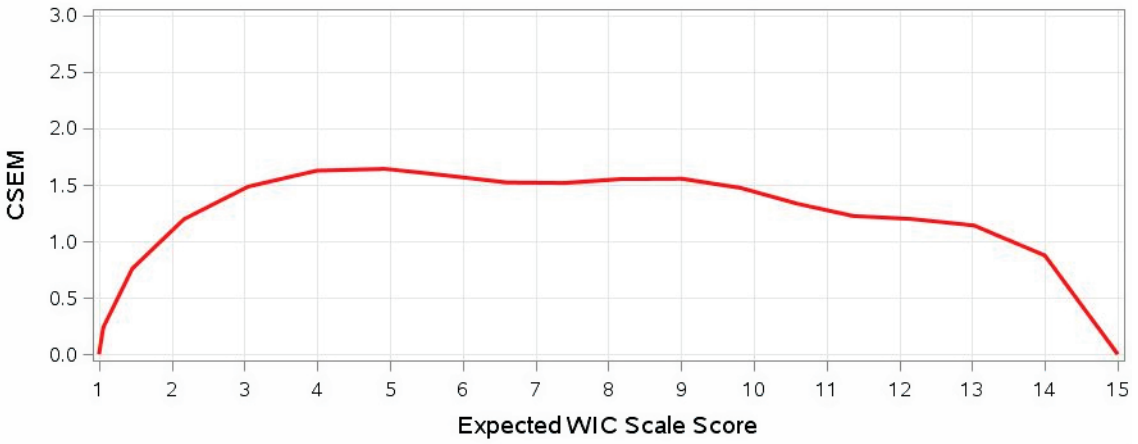


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Figure A-6.10 continued from previous page

Figure A-6.10.7: Conditional standard errors of measurement for Expression of Ideas

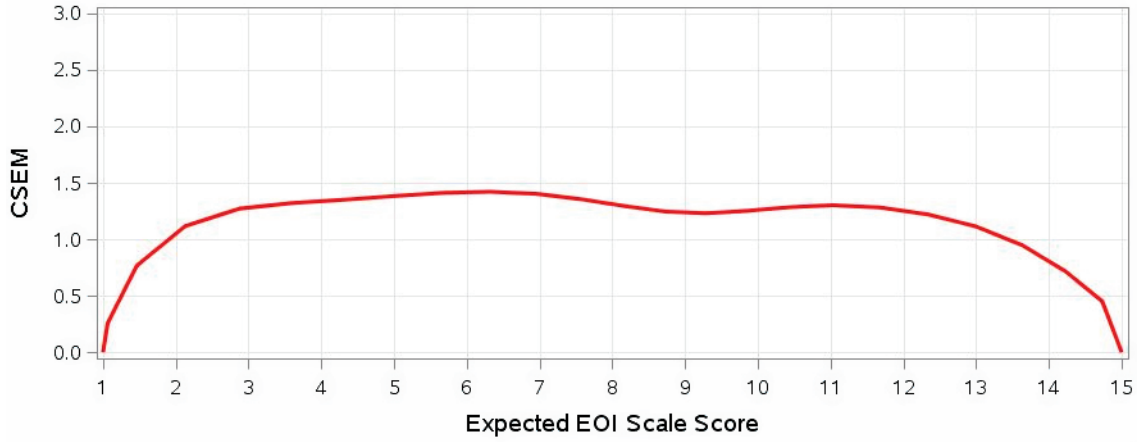


Figure A-6.10.8: Conditional standard errors of measurement for Standard English Conventions

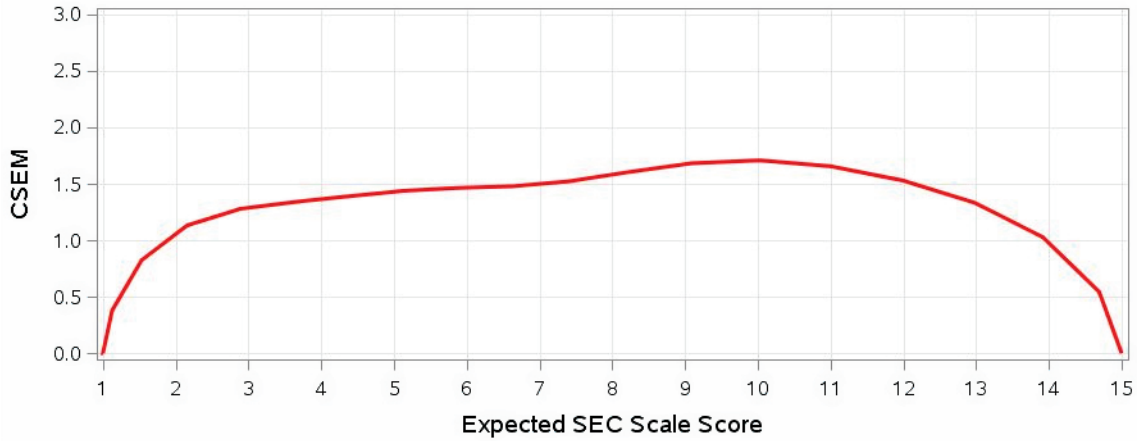


Figure A-6.10.9: Conditional standard errors of measurement for Heart of Algebra

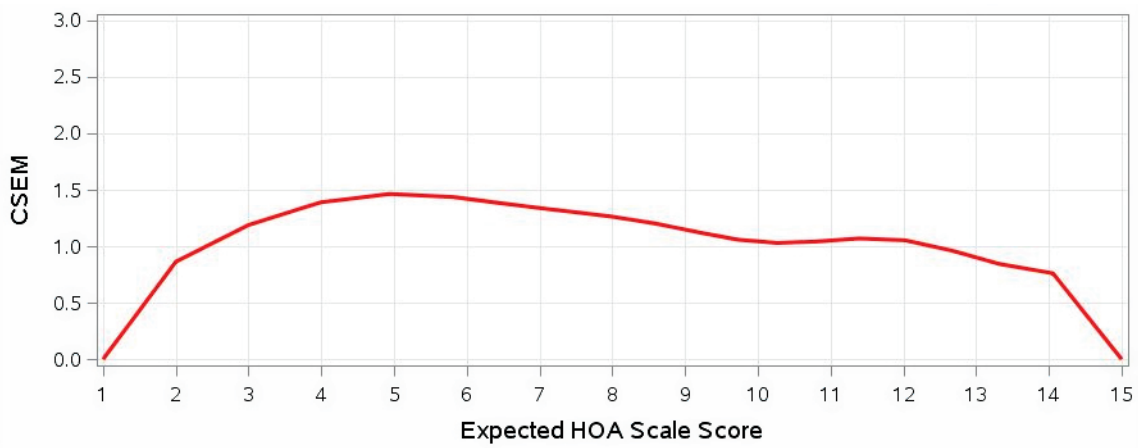


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Figure A-6.10.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

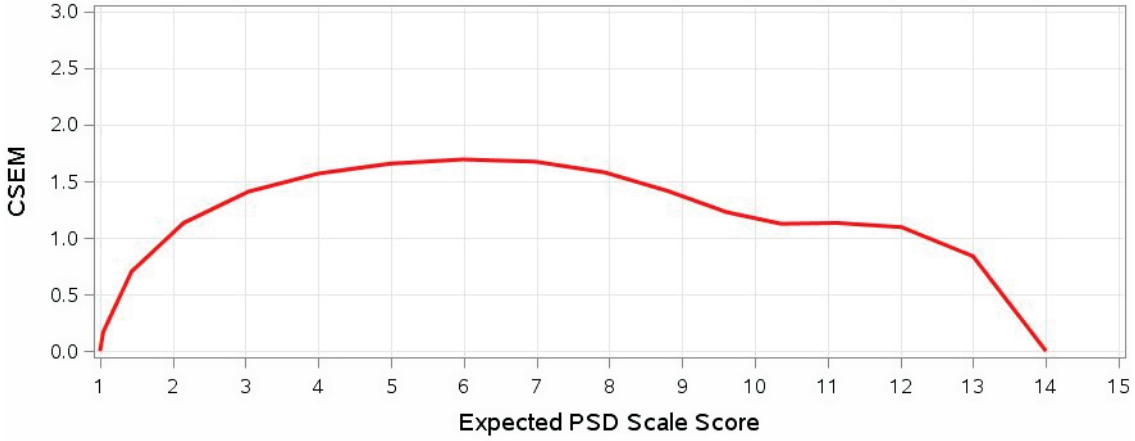


Figure A-6.10.11: Conditional standard errors of measurement for Passport to Advanced Math

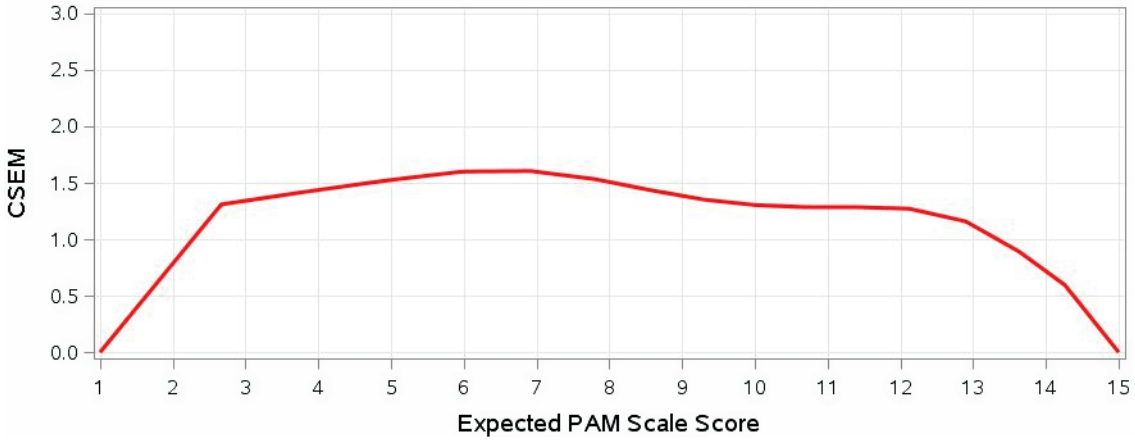
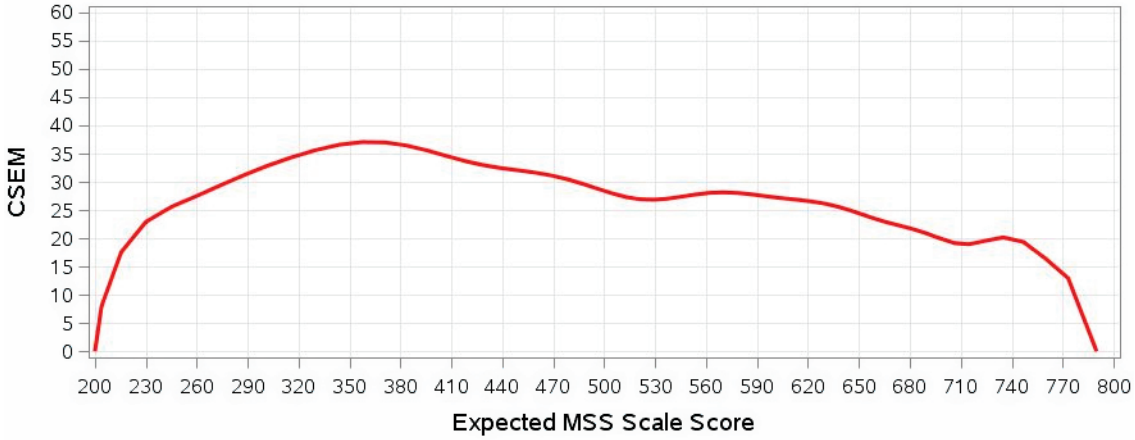


Figure A-6.10.12: Conditional standard errors of measurement for Math section score



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Figure A-6.11: Conditional standard errors of measurement graphs for SAT Form 3

Figure A-6.11.1: Conditional standard errors of measurement for Reading

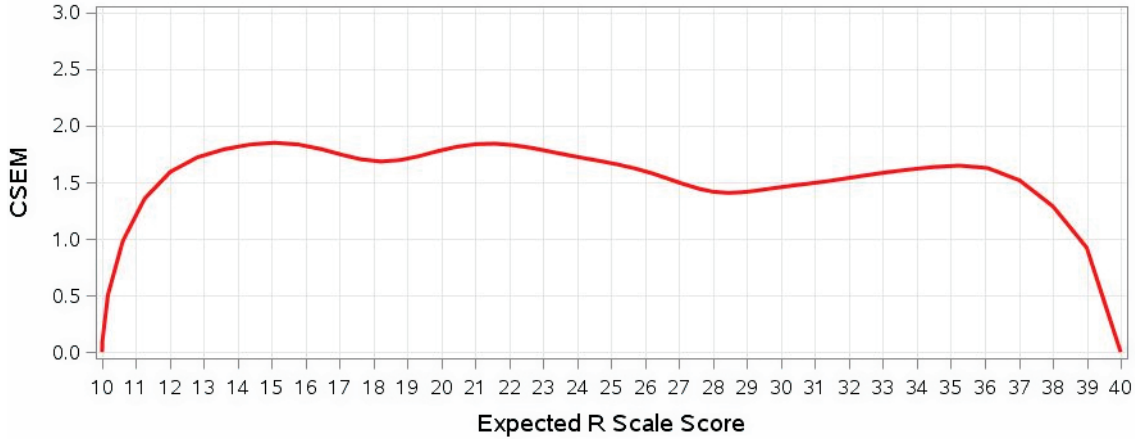


Figure A-6.11.2: Conditional standard errors of measurement for Writing and Language

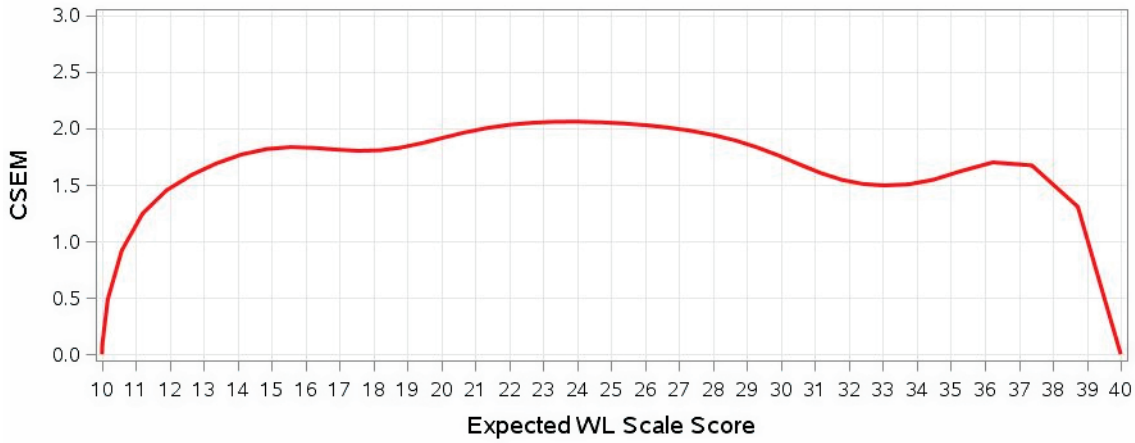


Figure A-6.11.3: Conditional standard errors of measurement for Analysis in History/Social Studies

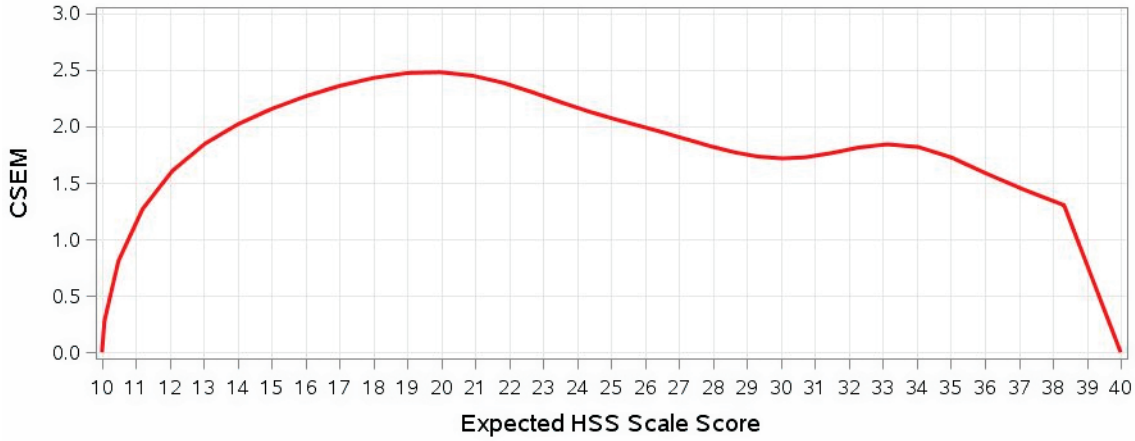


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Figure A-6.11.4: Conditional standard errors of measurement for Analysis in Science

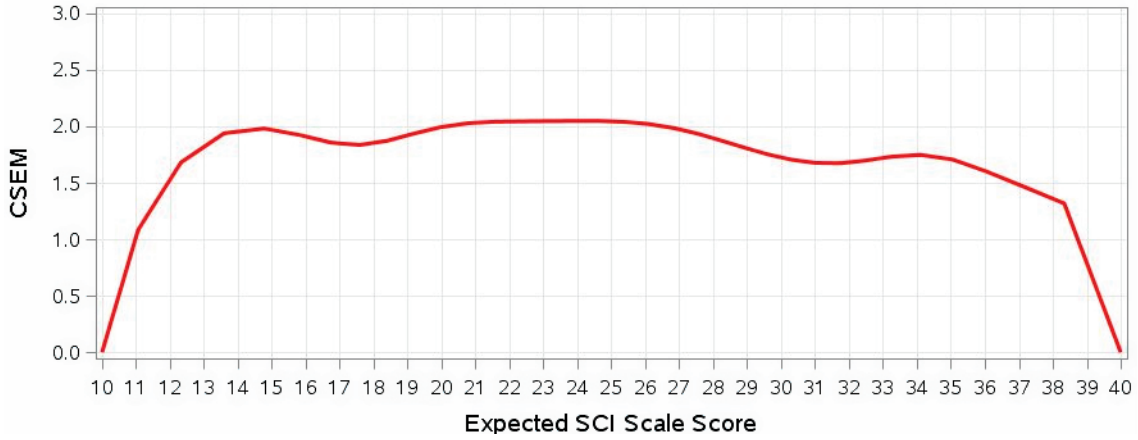


Figure A-6.11.5: Conditional standard errors of measurement for Command of Evidence

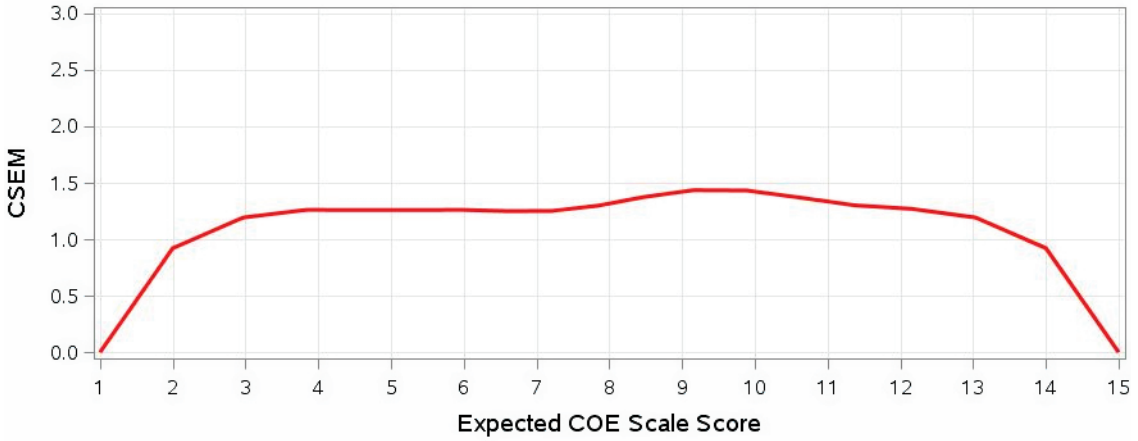


Figure A-6.11.6: Conditional standard errors of measurement for Words in Context

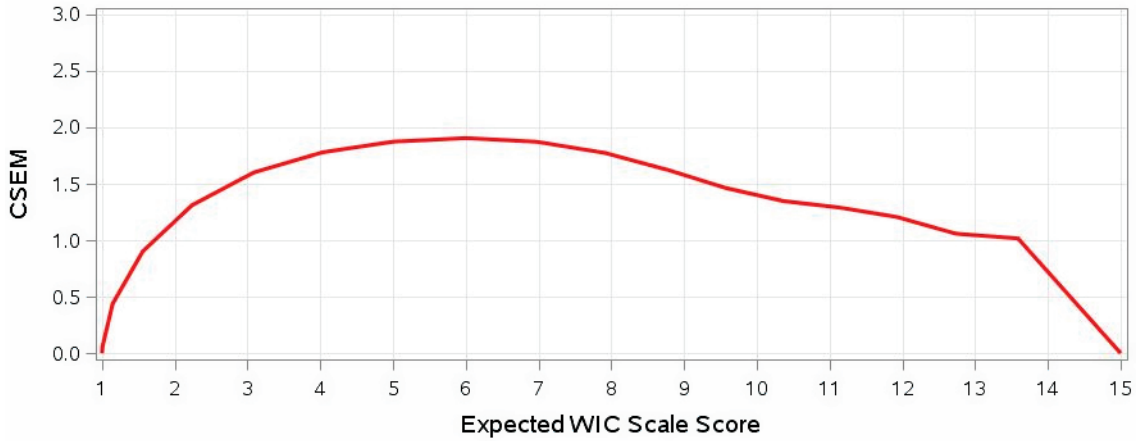


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Figure A-6.11 continued from previous page

Figure A-6.11.7: Conditional standard errors of measurement for Expression of Ideas

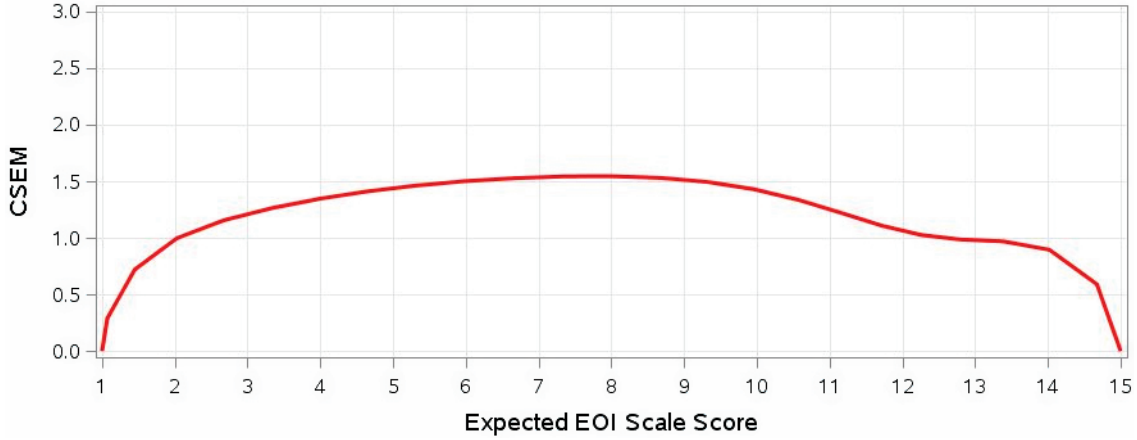


Figure A-6.11.8: Conditional standard errors of measurement for Standard English Conventions

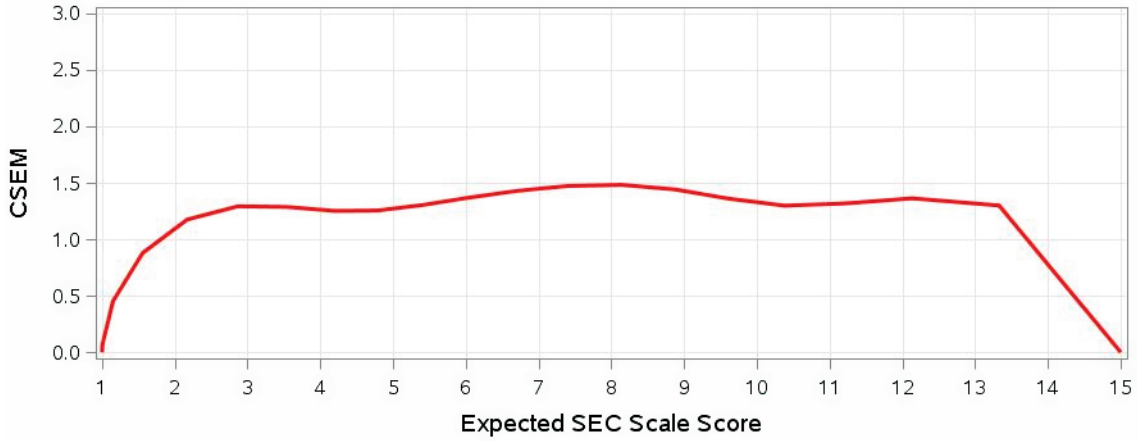


Figure A-6.11.9: Conditional standard errors of measurement for Heart of Algebra

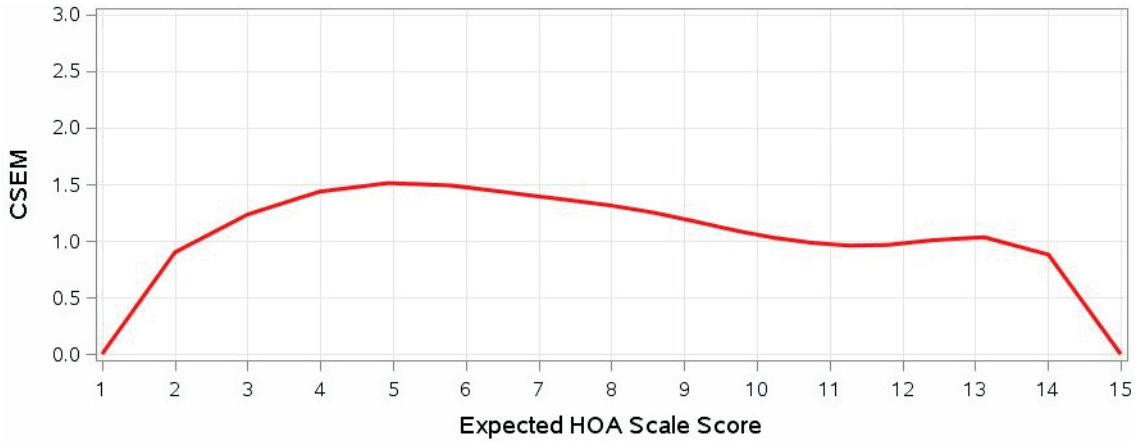


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Figure A-6.11.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

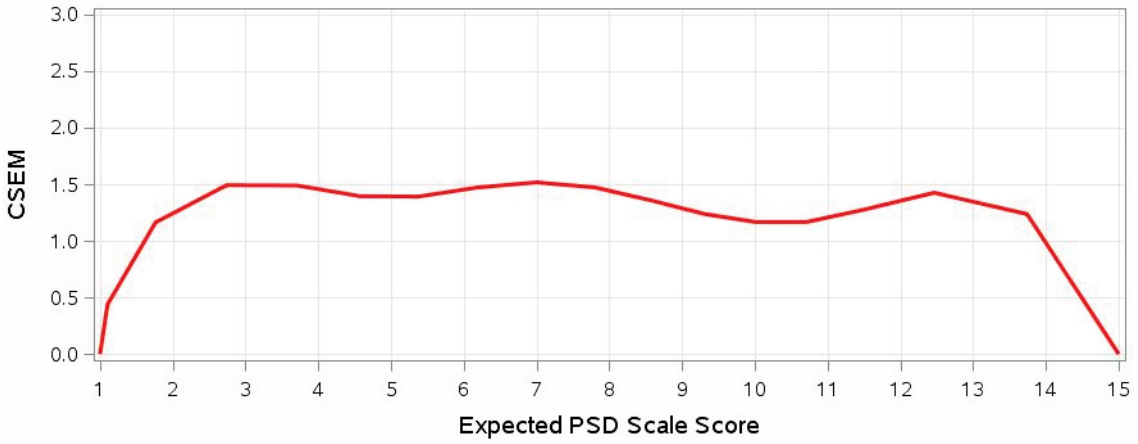


Figure A-6.11.11: Conditional standard errors of measurement for Passport to Advanced Math

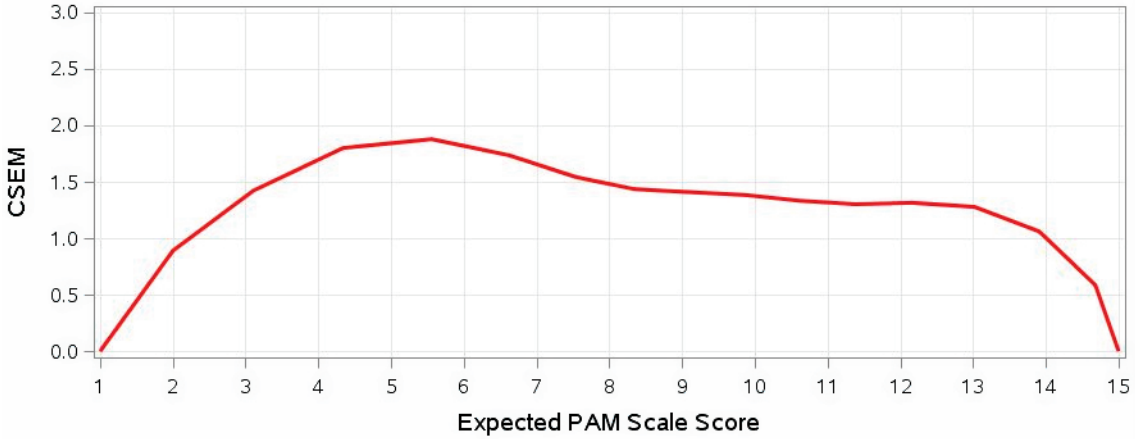
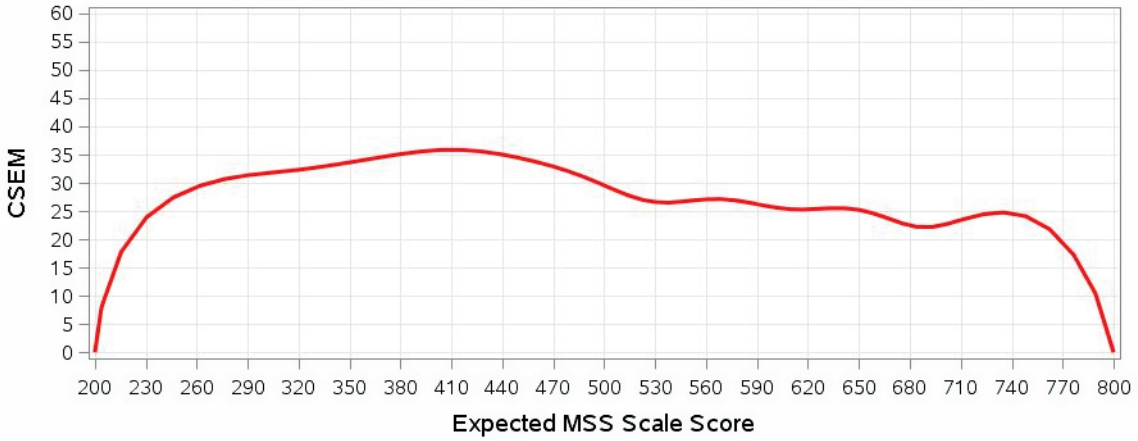


Figure A-6.11.12: Conditional standard errors of measurement for Math section score



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Figure A-6.12: Conditional standard errors of measurement graphs for PSAT/NMSQT and PSAT 10 Form 1

Figure A-6.12.1: Conditional standard errors of measurement for Reading

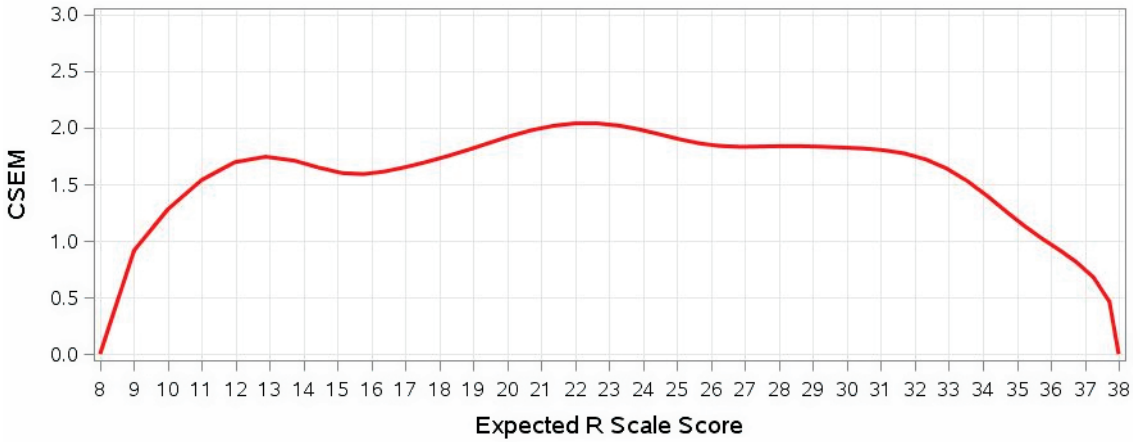


Figure A-6.12.2: Conditional standard errors of measurement for Writing and Language

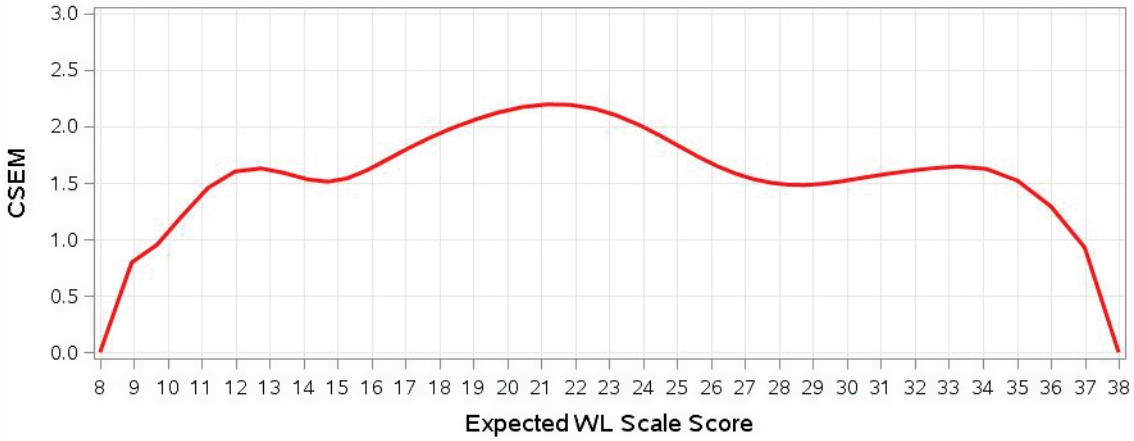


Figure A-6.12.3: Conditional standard errors of measurement for Analysis in History/Social Studies

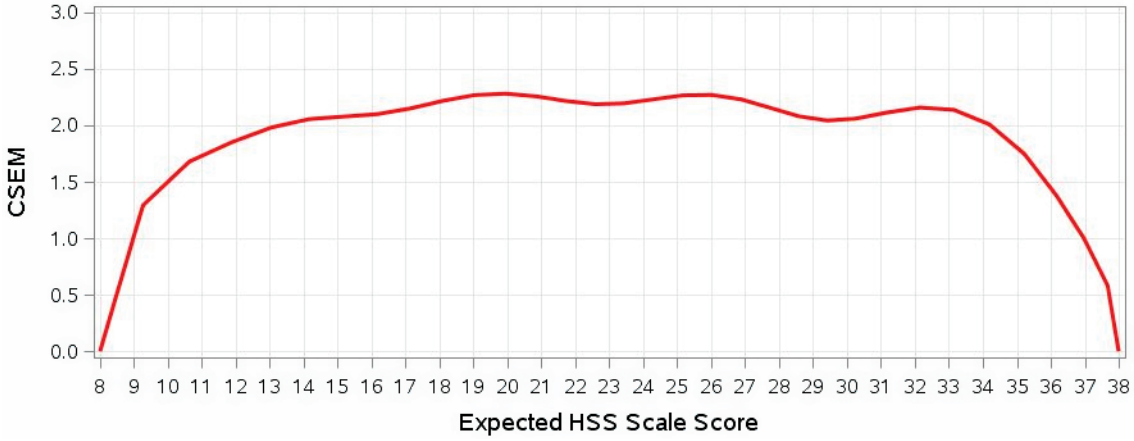


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Figure A-6.12.4: Conditional standard errors of measurement for Analysis in Science

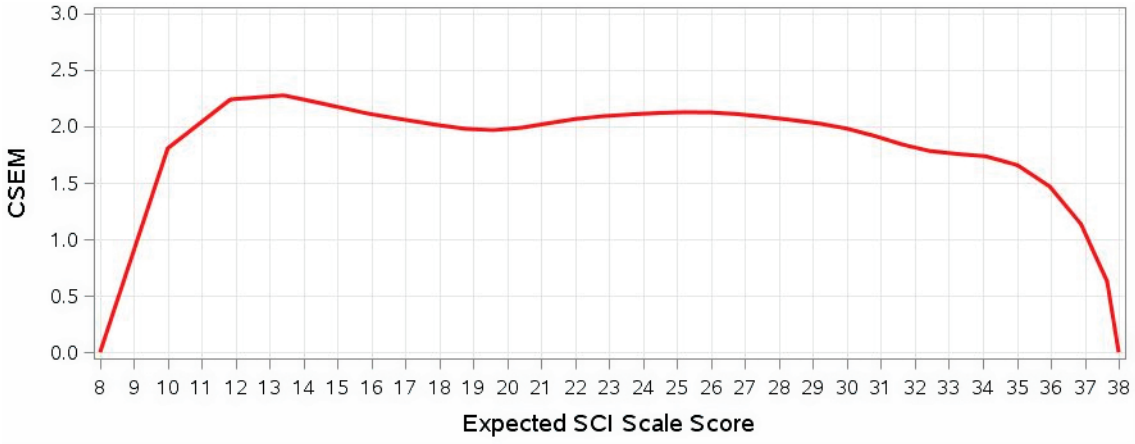


Figure A-6.12.5: Conditional standard errors of measurement for Command of Evidence

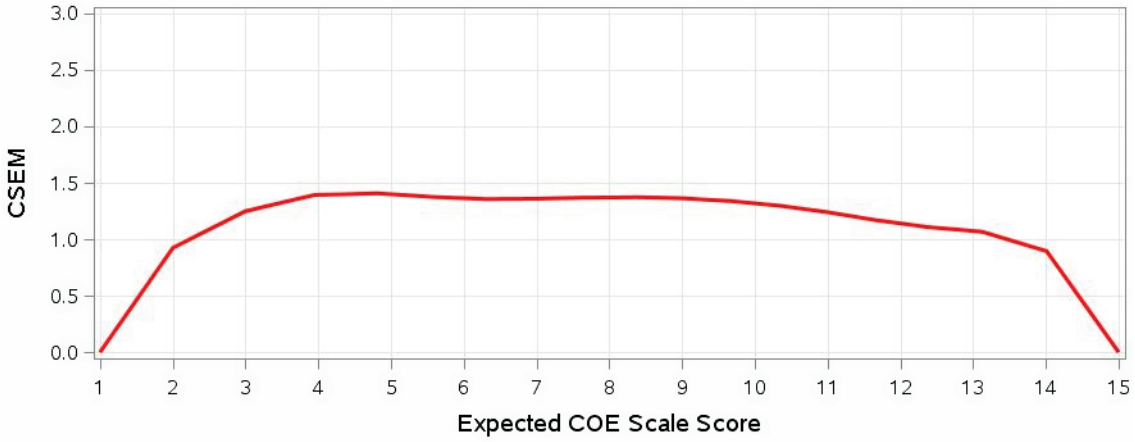


Figure A-6.12.6: Conditional standard errors of measurement for Words in Context

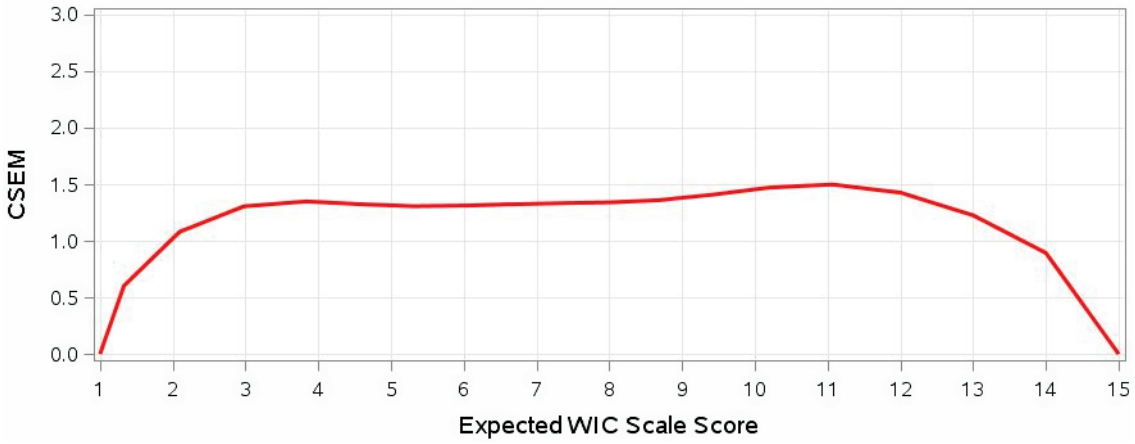


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Figure A-6.12 continued from previous page

Figure A-6.12.7: Conditional standard errors of measurement for Expression of Ideas

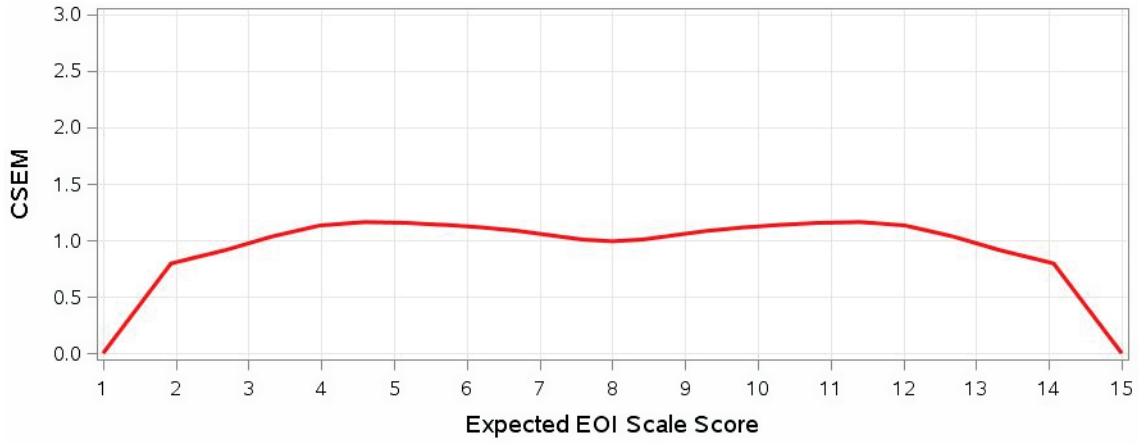


Figure A-6.12.8: Conditional standard errors of measurement for Standard English Conventions

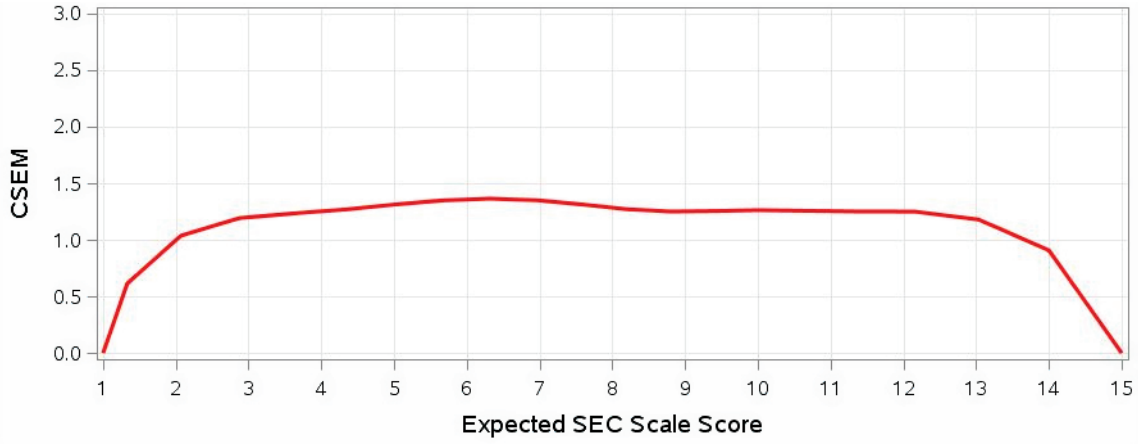


Figure A-6.12.9: Conditional standard errors of measurement for Heart of Algebra

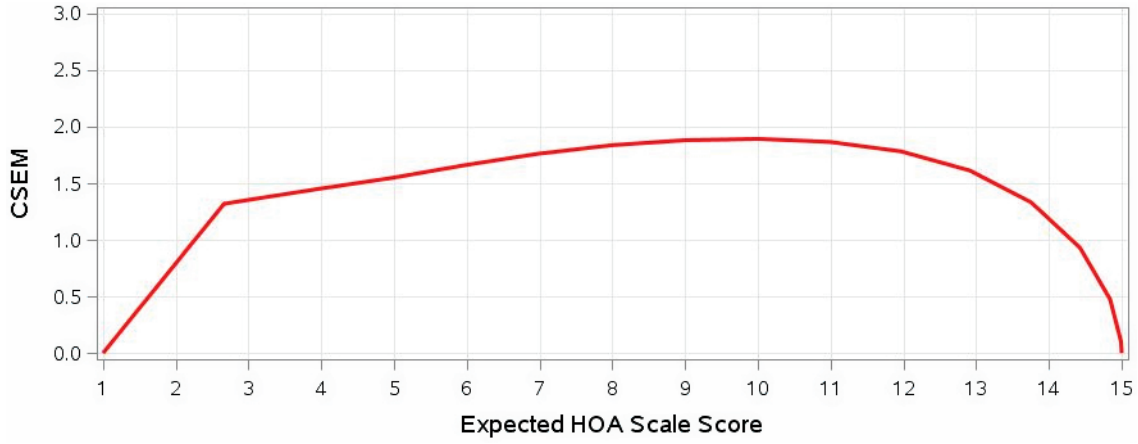


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Figure A-6.12 continued from previous page

Figure A-6.12.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

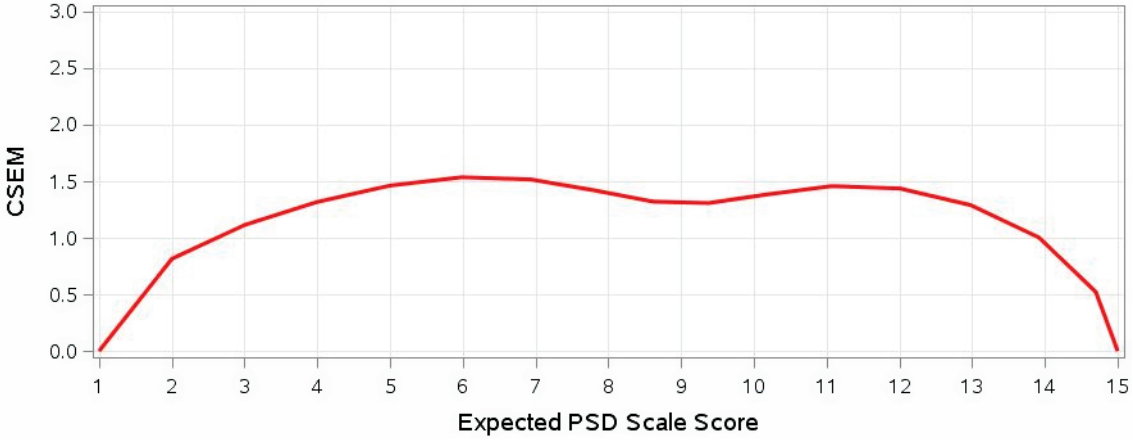


Figure A-6.12.11: Conditional standard errors of measurement for Passport to Advanced Math

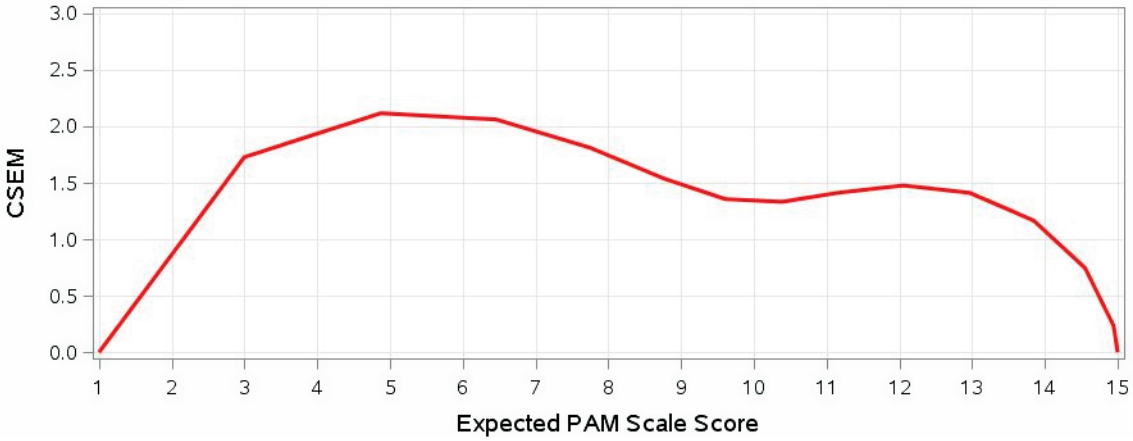
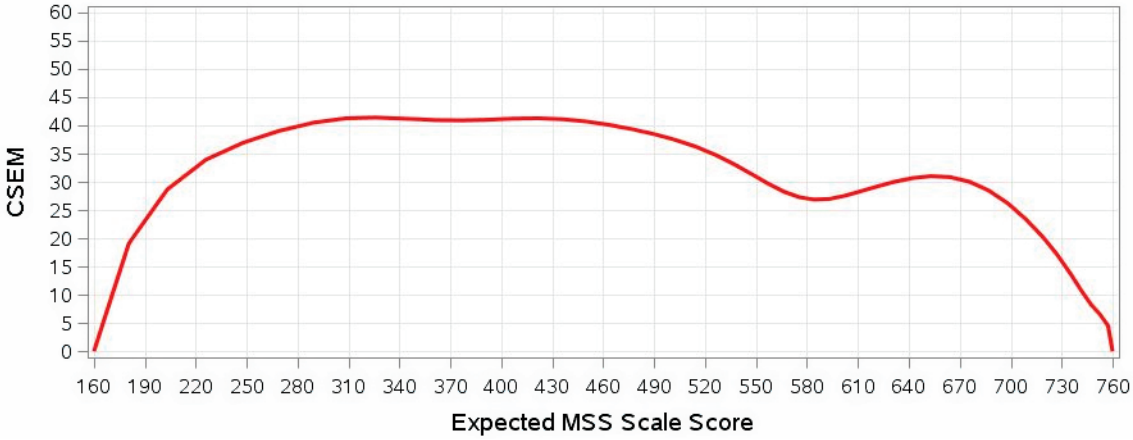


Figure A-6.12.12: Conditional standard errors of measurement for Math section score



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Figure A-6.13: Conditional standard errors of measurement graphs for PSAT/NMSQT and PSAT 10 Form 2

Figure A-6.13.1: Conditional standard errors of measurement for Reading

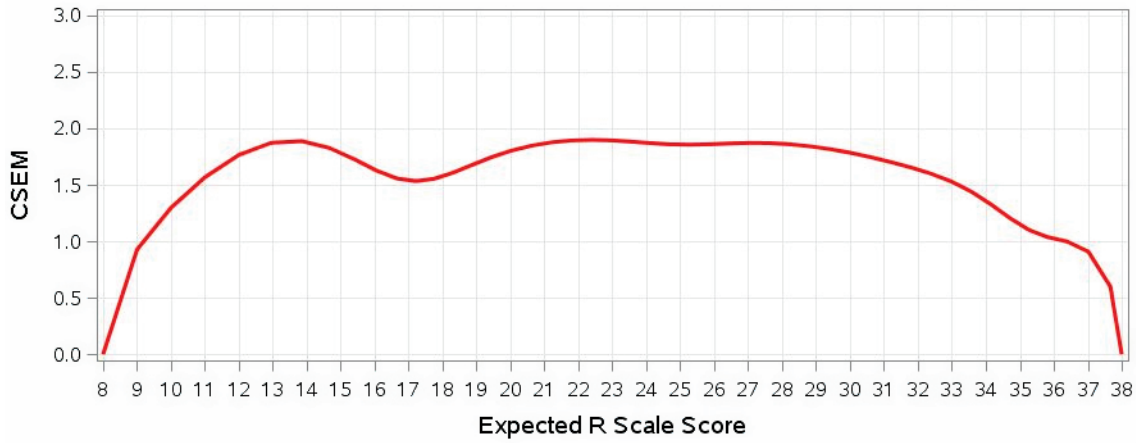


Figure A-6.13.2: Conditional standard errors of measurement for Writing and Language

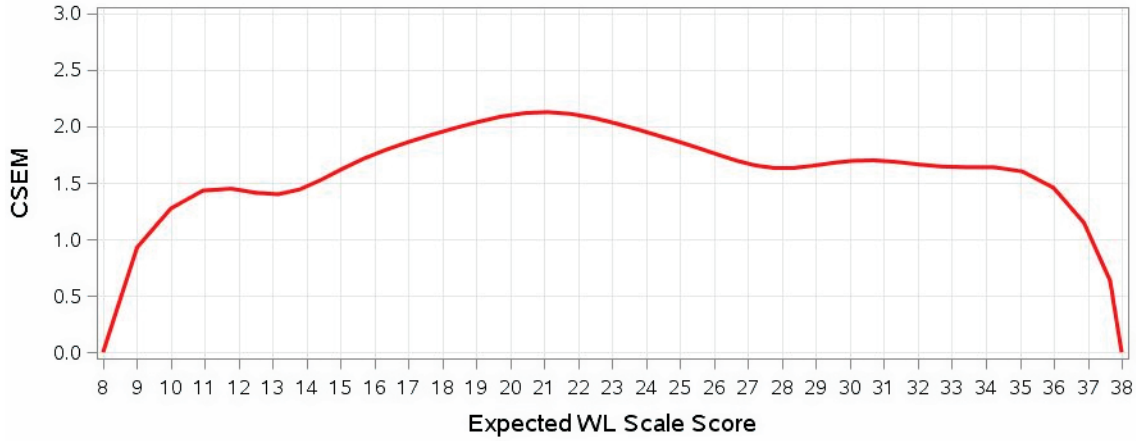


Figure A-6.13.3: Conditional standard errors of measurement for Analysis in History/Social Studies

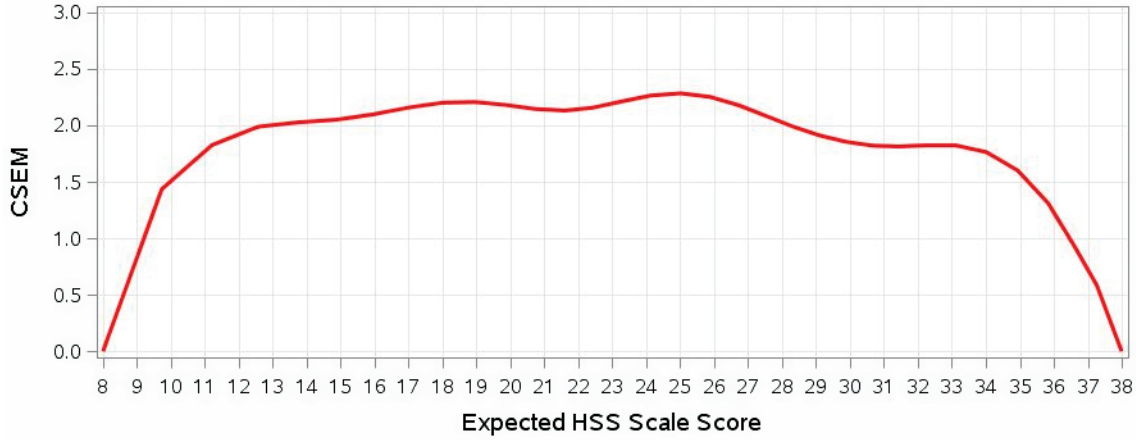


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Figure A-6.13 continued from previous page

Figure A-6.13.4: Conditional standard errors of measurement for Analysis in Science

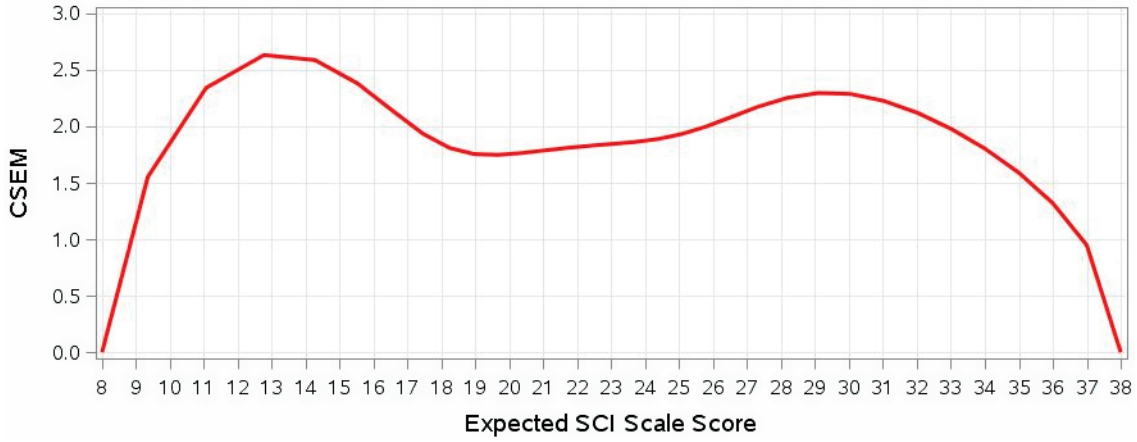


Figure A-6.13.5: Conditional standard errors of measurement for Command of Evidence

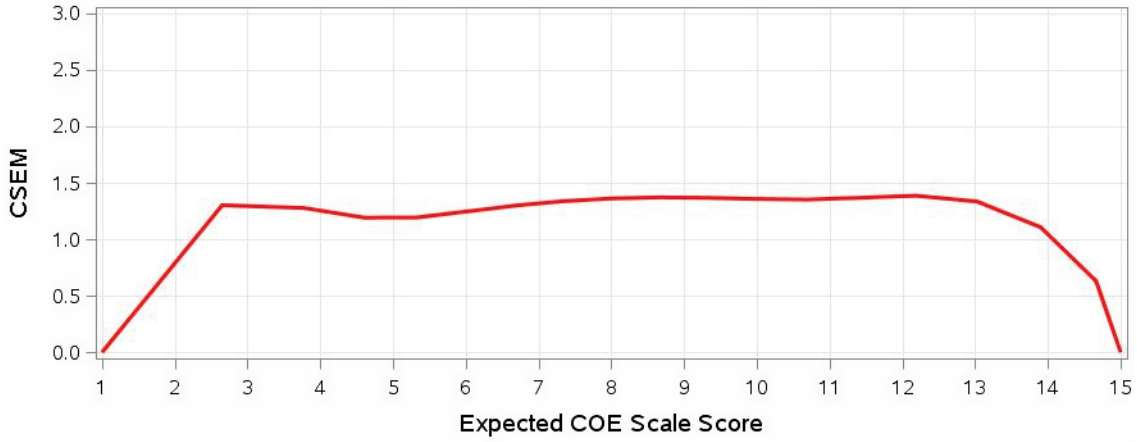


Figure A-6.13.6: Conditional standard errors of measurement for Words in Context

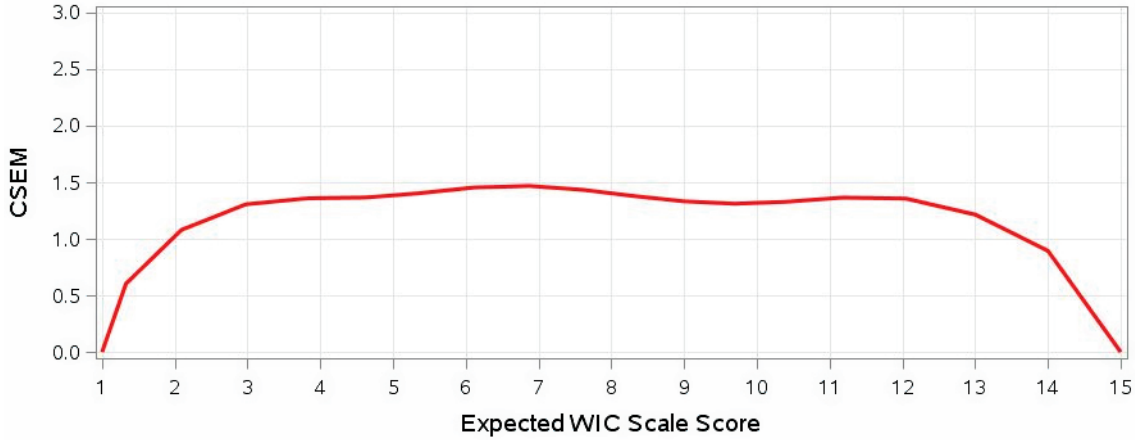


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Figure A-6.13 continued from previous page

Figure A-6.13.7: Conditional standard errors of measurement for Expression of Ideas

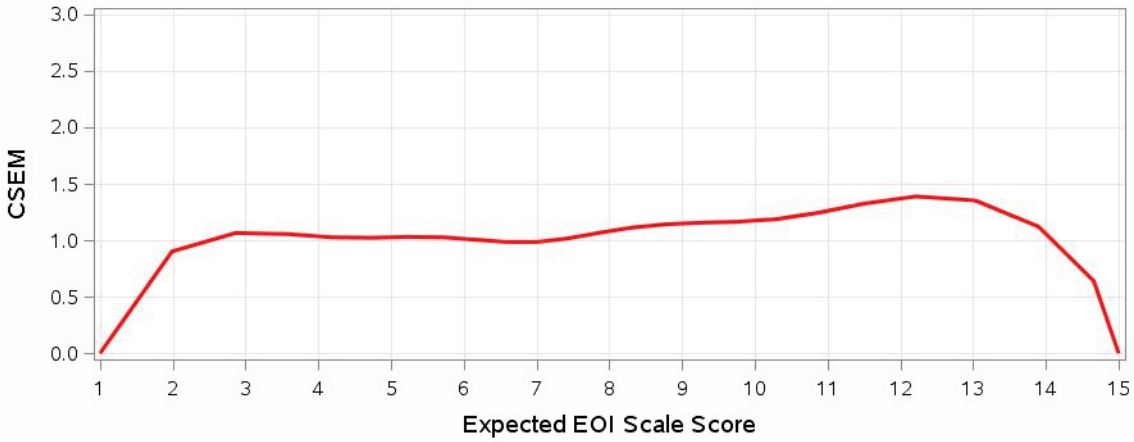


Figure A-6.13.8: Conditional standard errors of measurement for Standard English Conventions

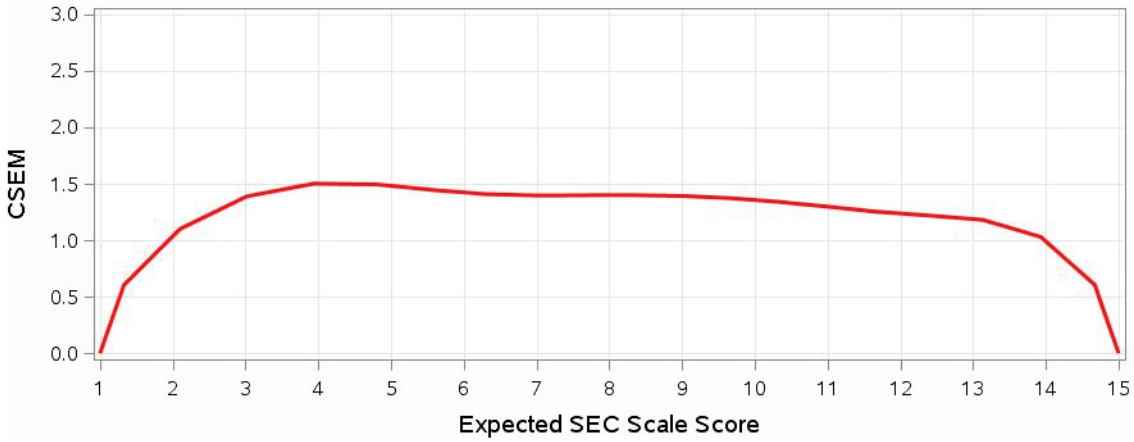


Figure A-6.13.9: Conditional standard errors of measurement for Heart of Algebra

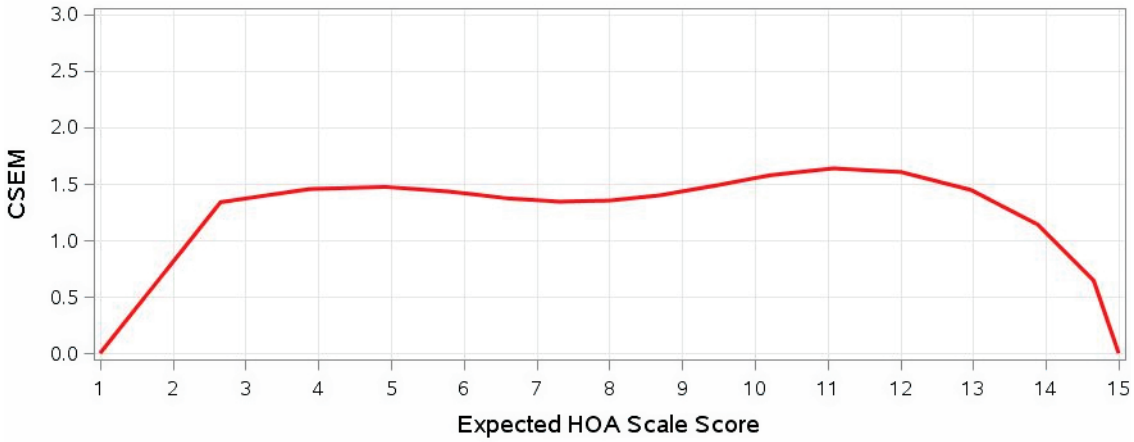


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Figure A-6.13 continued from previous page

Figure A-6.13.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

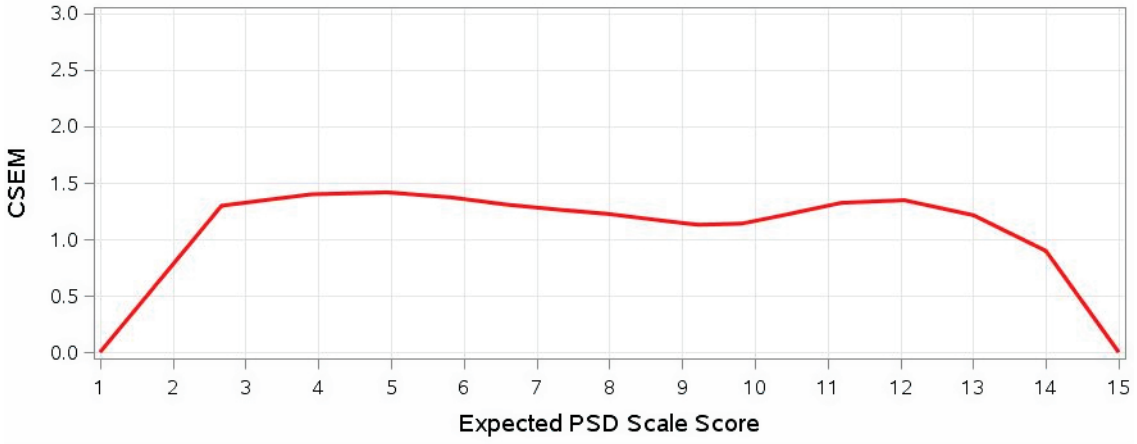


Figure A-6.13.11: Conditional standard errors of measurement for Passport to Advanced Math

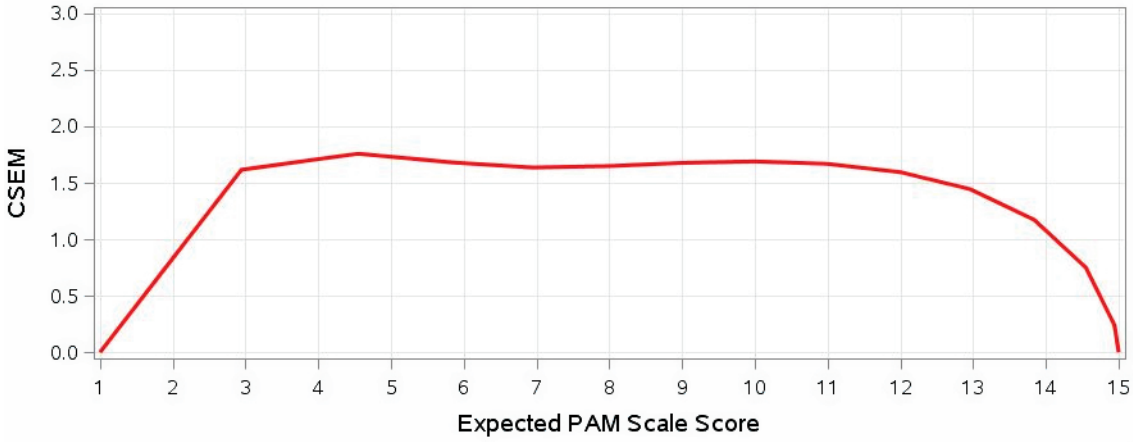
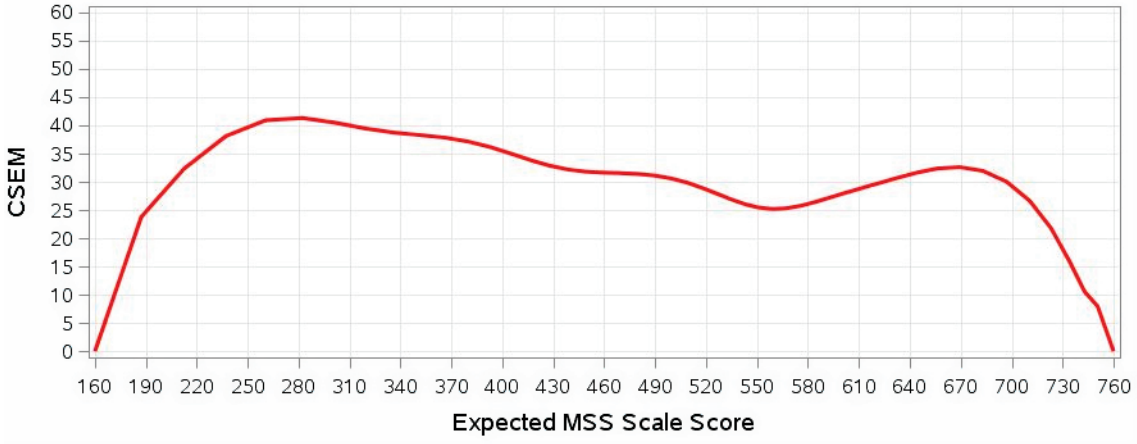


Figure A-6.13.12: Conditional standard errors of measurement for Math section score



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Figure A-6.14: Conditional standard errors of measurement graphs for PSAT 8/9 Form 1

Figure A-6.14.1: Conditional standard errors of measurement for Reading

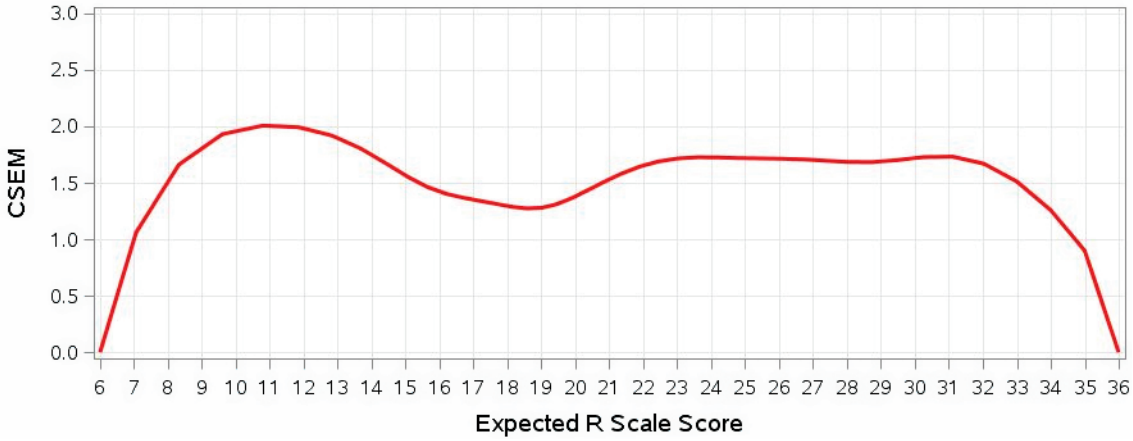


Figure A-6.14.2: Conditional standard errors of measurement for Writing and Language

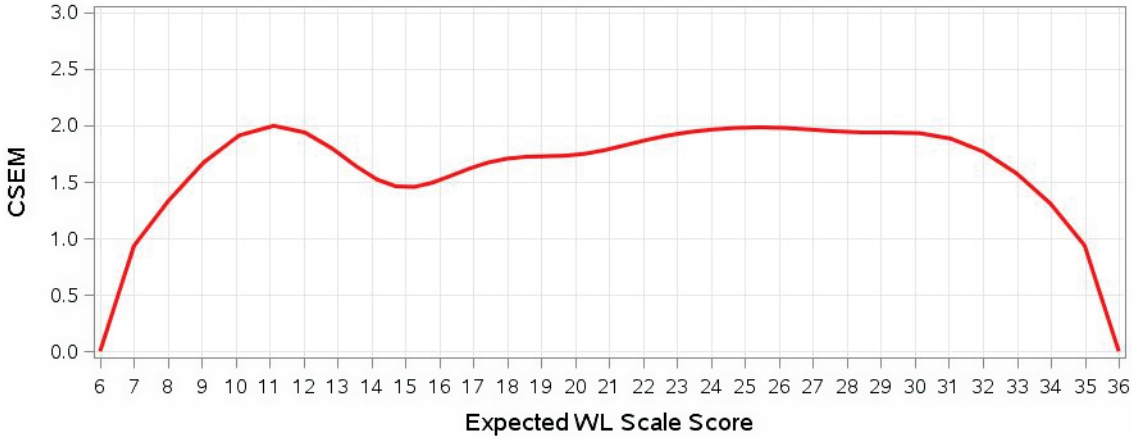


Figure A-6.14.3: Conditional standard errors of measurement for Analysis in History/Social Studies

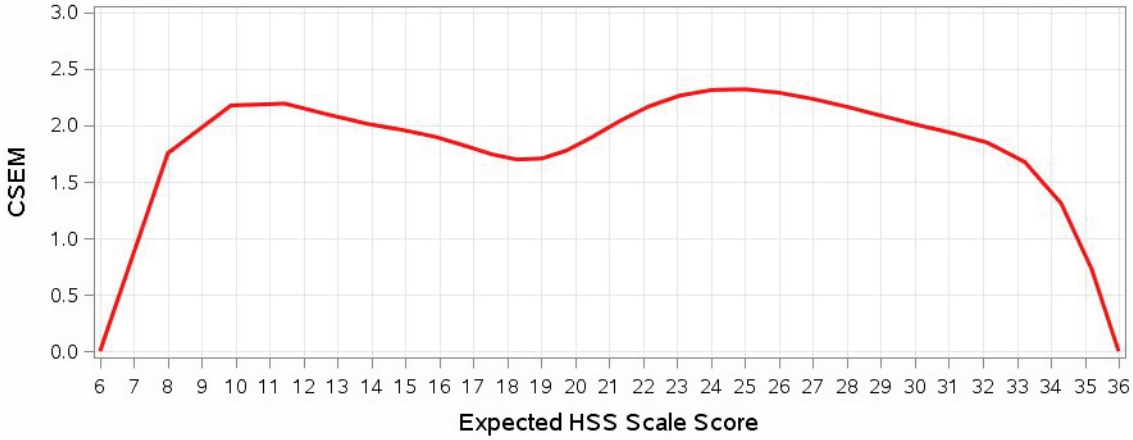


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Figure A-6.14 continued from previous page

Figure A-6.14.4: Conditional standard errors of measurement for Analysis in Science

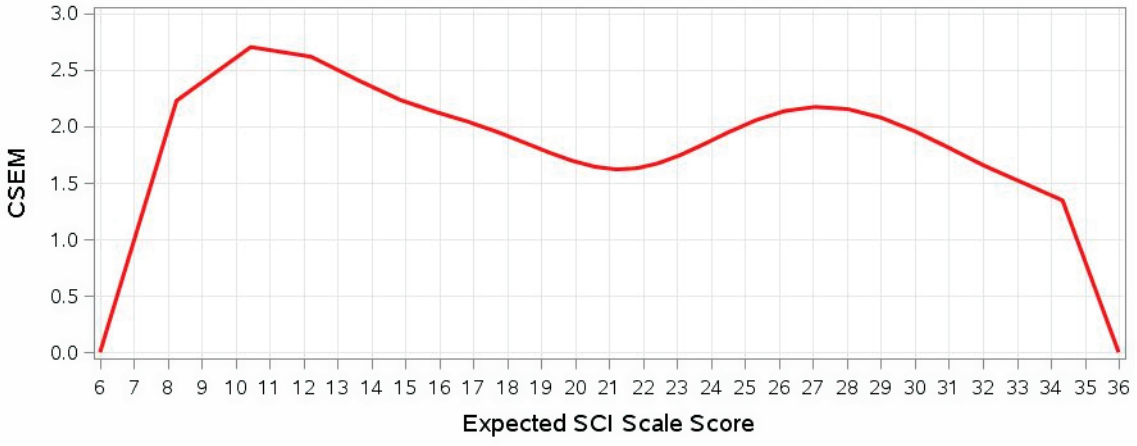


Figure A-6.14.5: Conditional standard errors of measurement for Command of Evidence

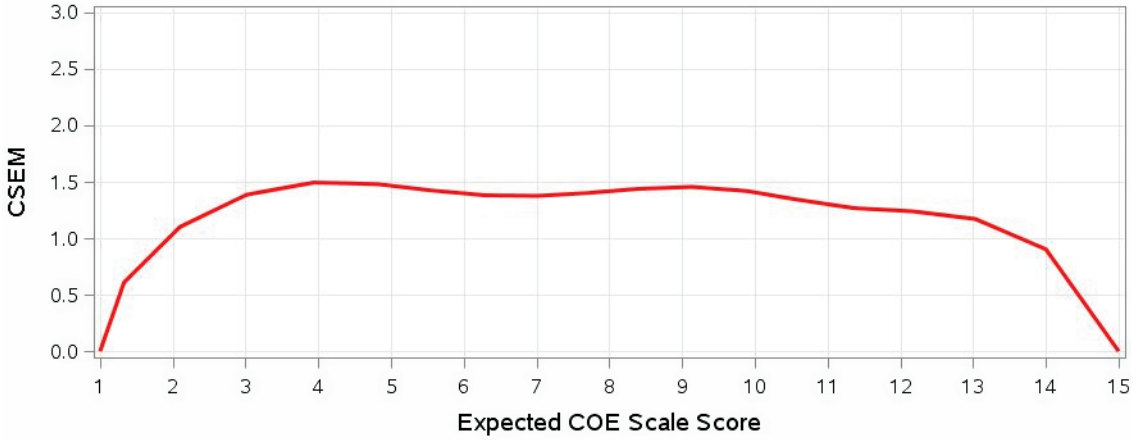


Figure A-6.14.6: Conditional standard errors of measurement for Words in Context

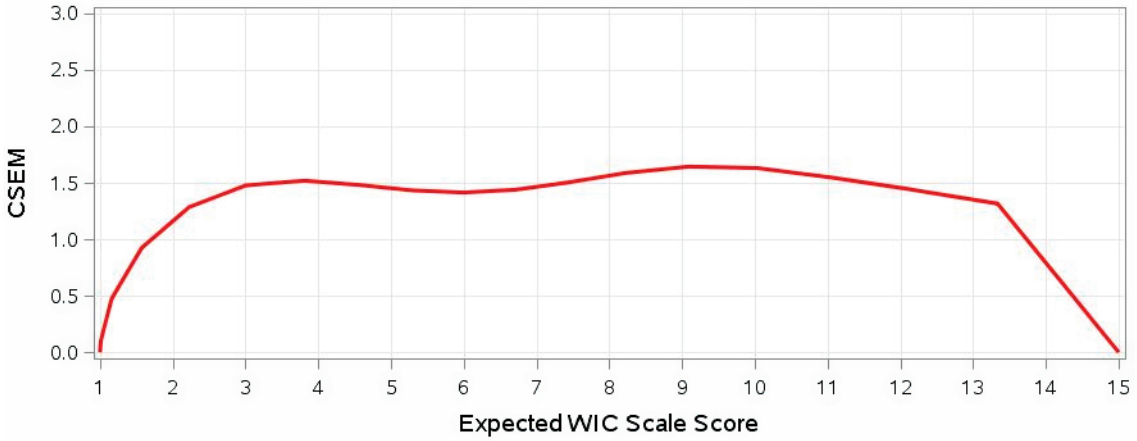


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Figure A-6.14.7: Conditional standard errors of measurement for Expression of Ideas

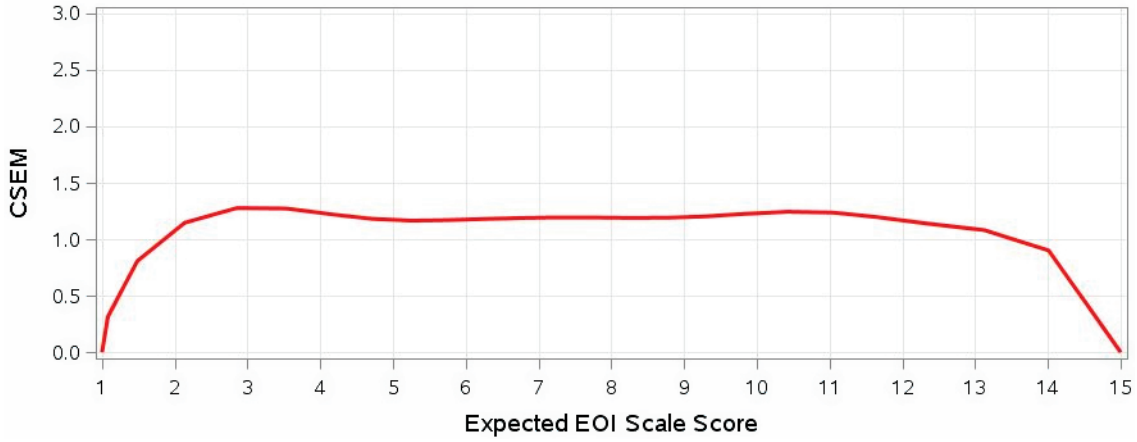


Figure A-6.14.8: Conditional standard errors of measurement for Standard English Conventions

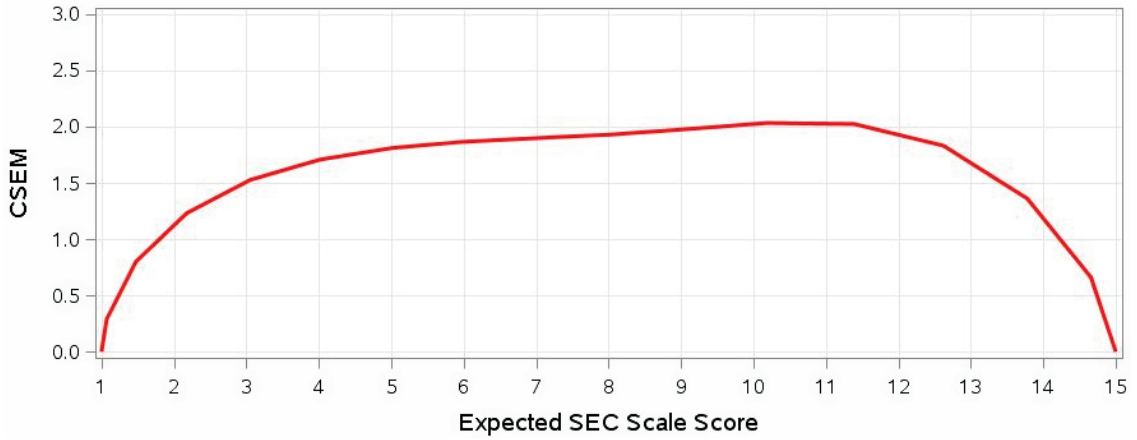


Figure A-6.14.9: Conditional standard errors of measurement for Heart of Algebra

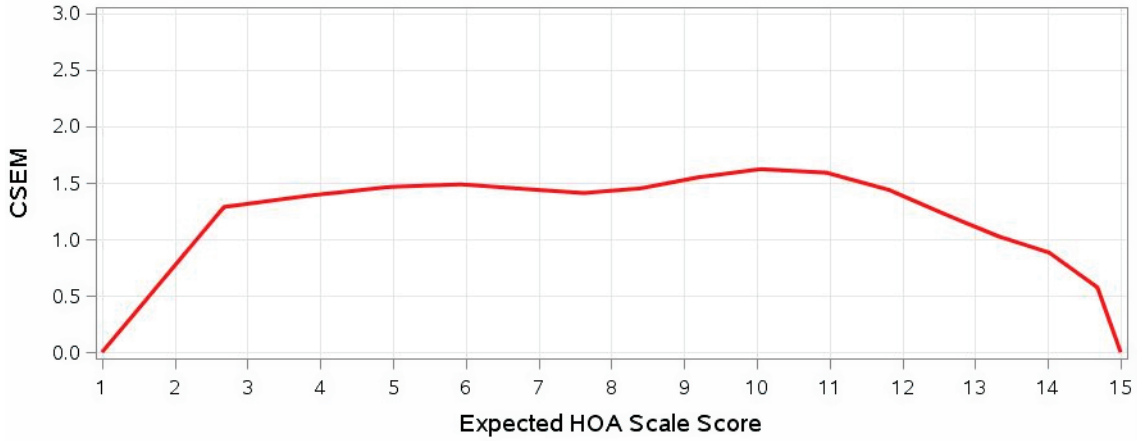


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Figure A-6.14.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

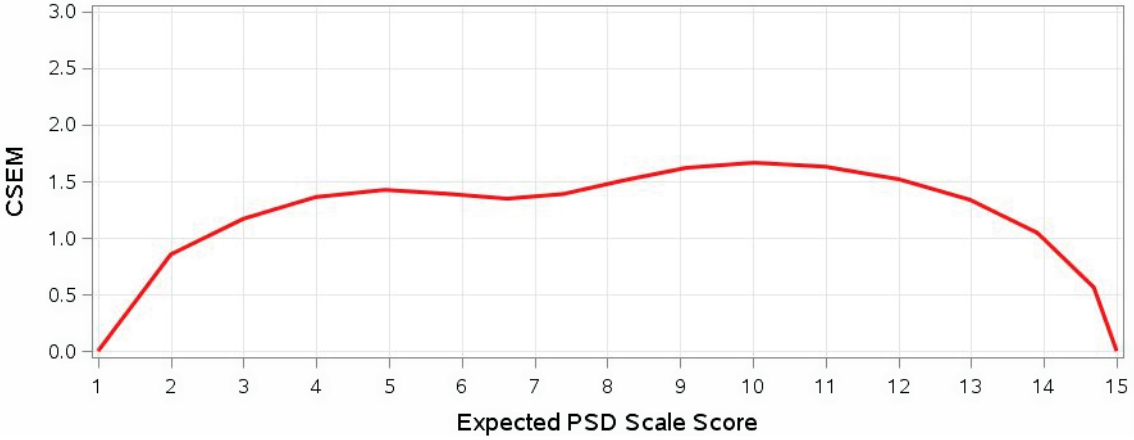


Figure A-6.14.11: Conditional standard errors of measurement for Math section score



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Figure A-6.15: Conditional standard errors of measurement graphs for PSAT 8/9 Form 2

Figure A-6.15.1: Conditional standard errors of measurement for Reading

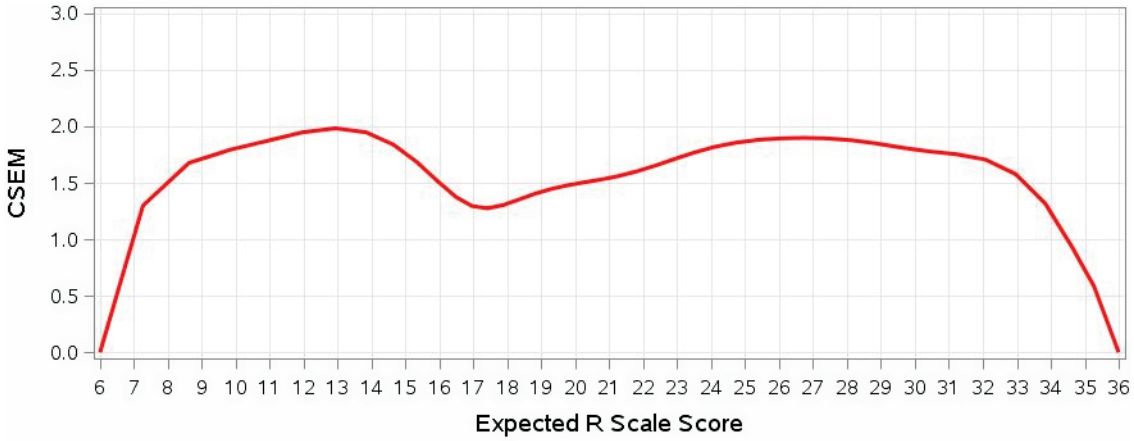


Figure A-6.15.2: Conditional standard errors of measurement for Writing and Language

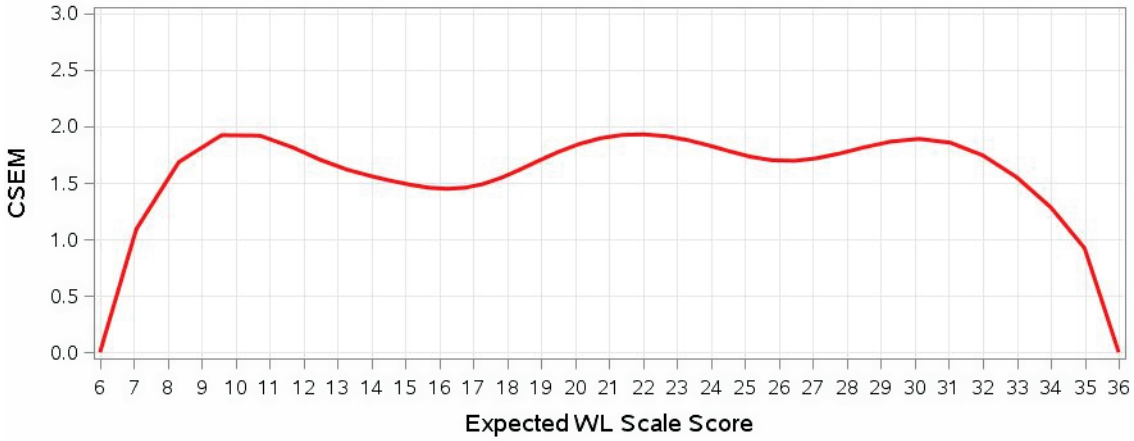


Figure A-6.15.3: Conditional standard errors of measurement for Analysis in History/Social Studies

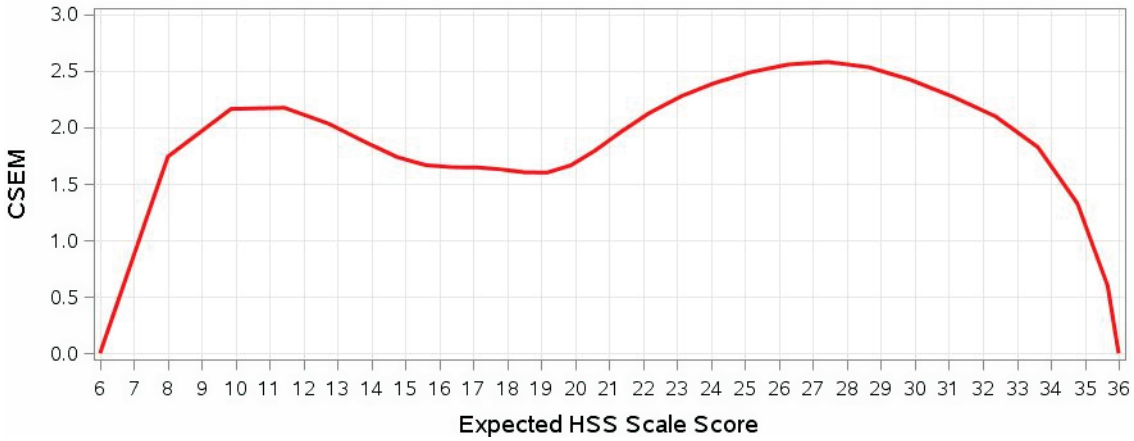


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Figure A-6.15.4: Conditional standard errors of measurement for Analysis in Science

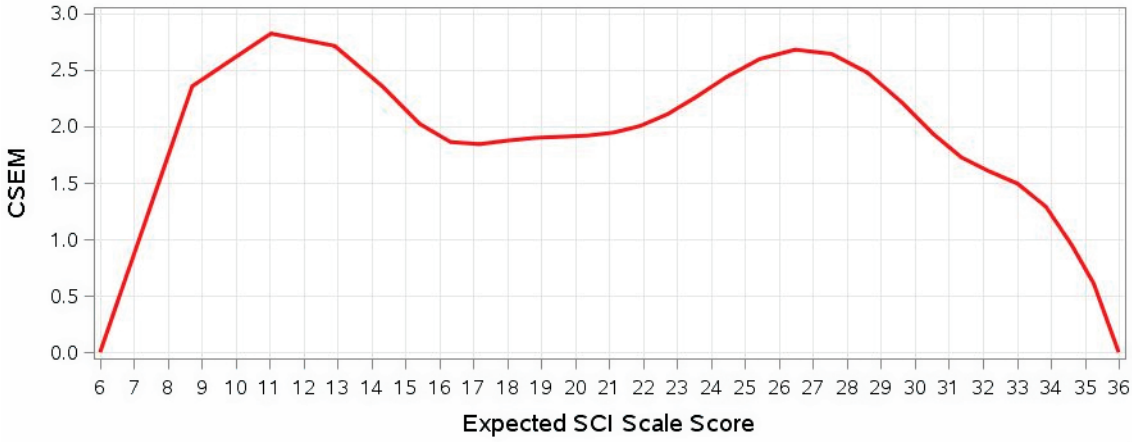


Figure A-6.15.5: Conditional standard errors of measurement for Command of Evidence

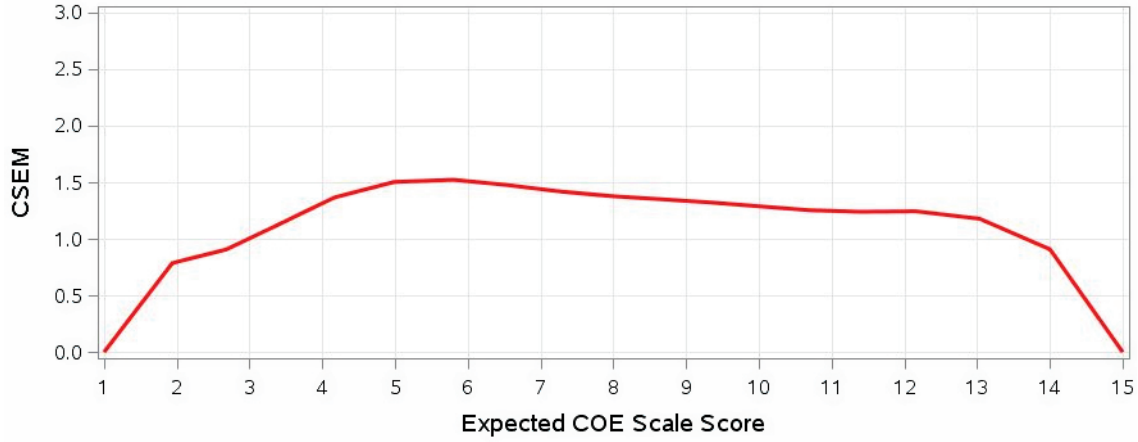


Figure A-6.15.6: Conditional standard errors of measurement for Words in Context

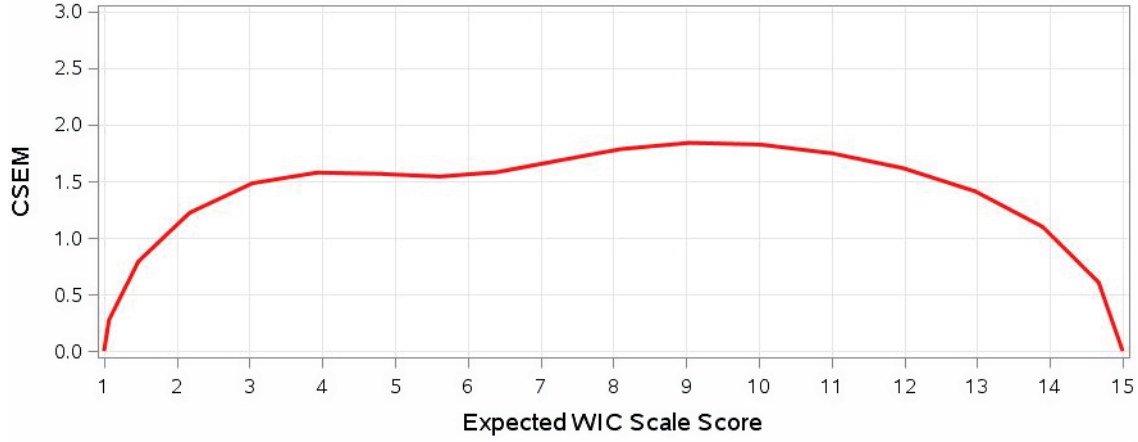


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Figure A-6.15.7: Conditional standard errors of measurement for Expression of Ideas

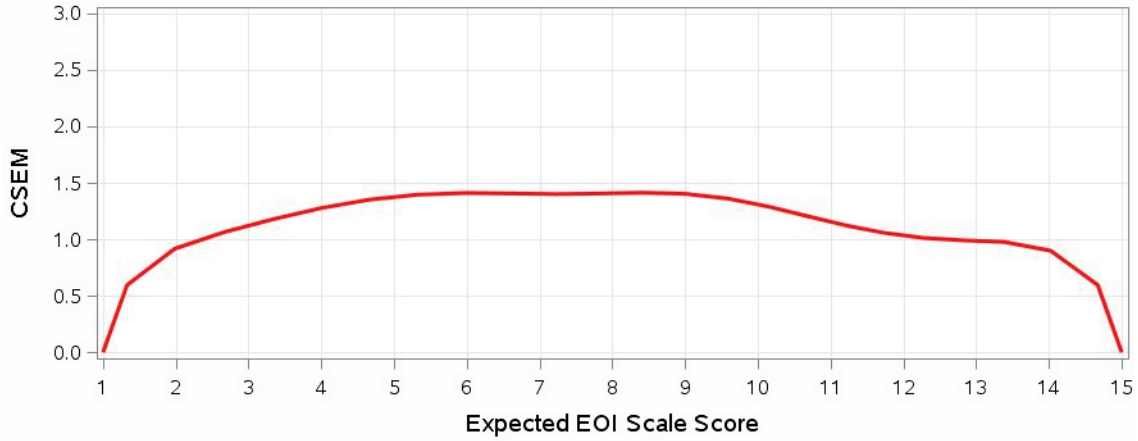


Figure A-6.15.8: Conditional standard errors of measurement for Standard English Conventions

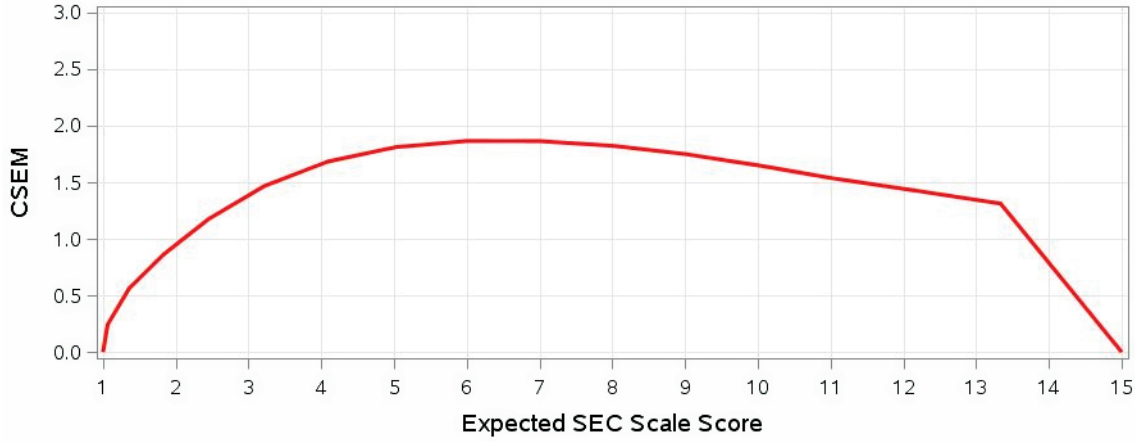


Figure A-6.15.9: Conditional standard errors of measurement for Heart of Algebra

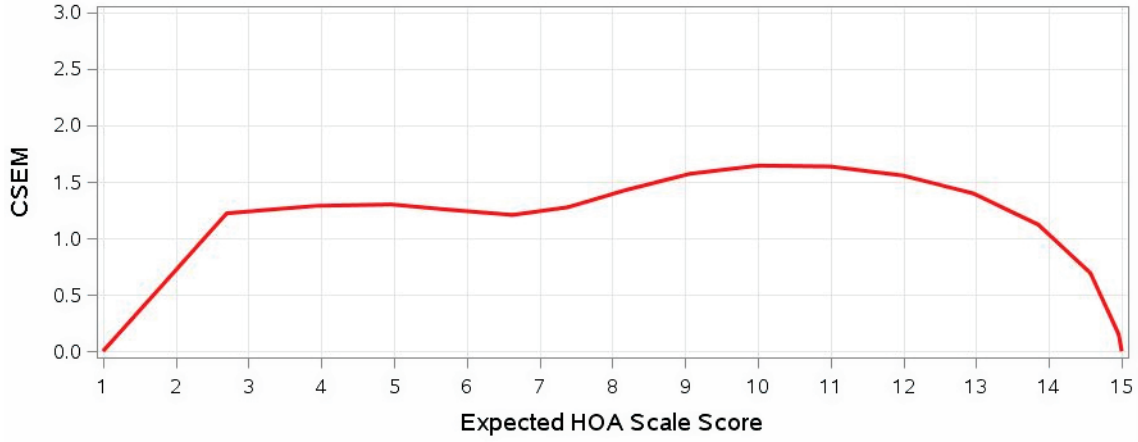


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Figure A-6.15.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

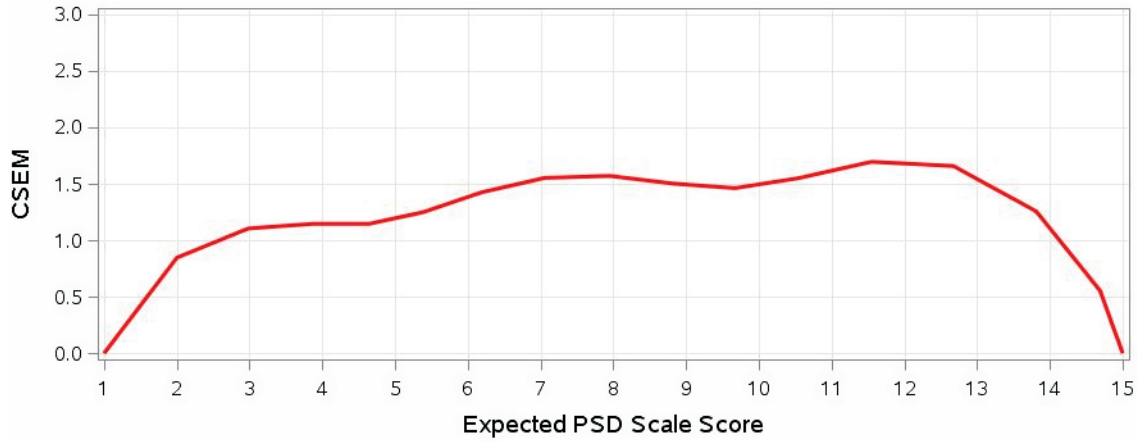


Figure A-6.15.11: Conditional standard errors of measurement for Math section score



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Figure A-6.16: Raw score distributions for SAT Form 1

Figure A-6.16.1: Reading Test raw score distribution

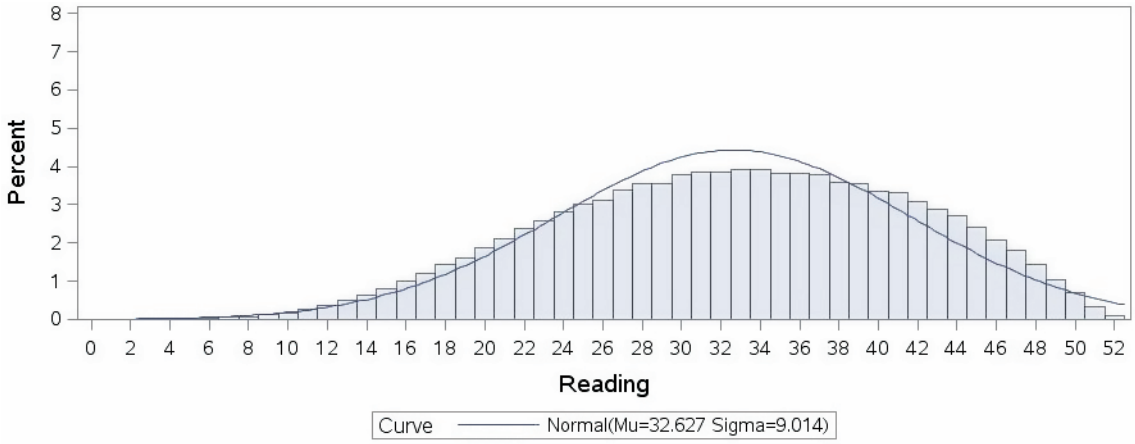


Figure A-6.16.2: Writing and Language Test raw score distribution

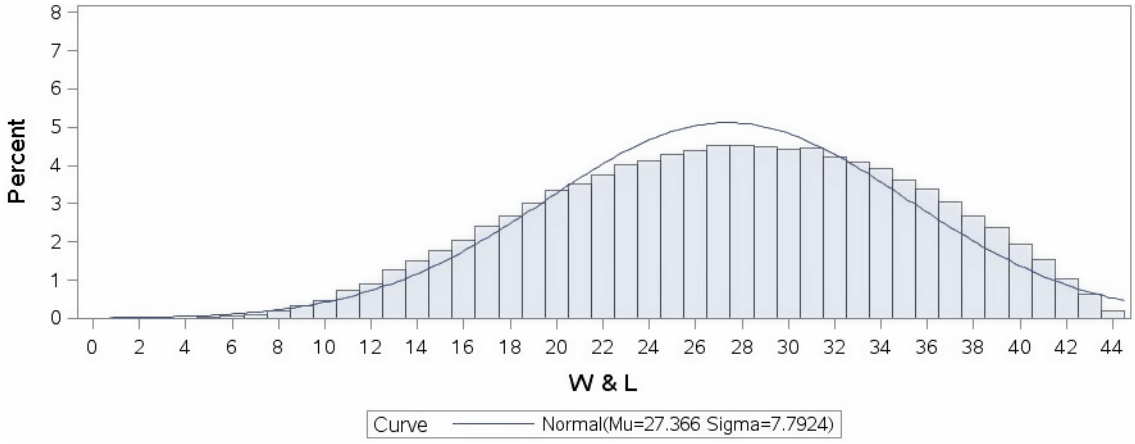


Figure A-6.16.3: Math Test raw score distribution

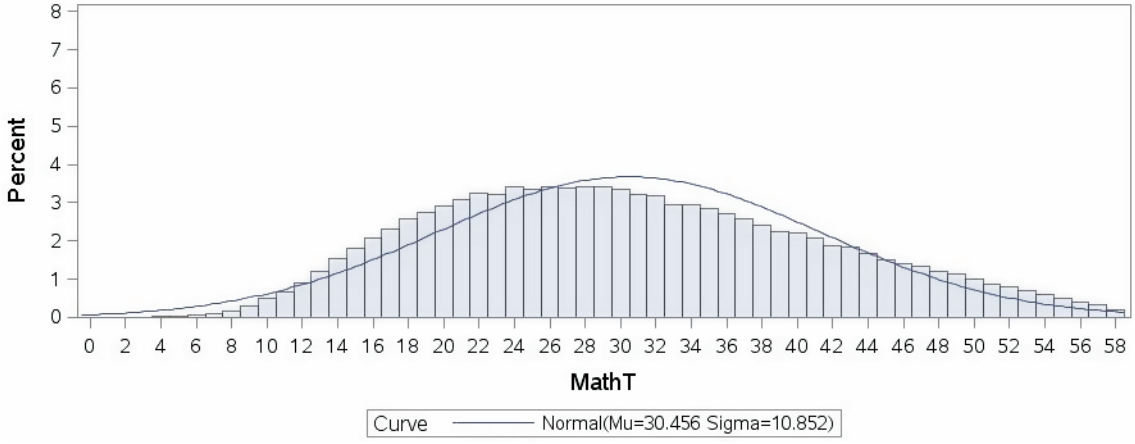


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Figure A-6.16.4: Analysis in History and Social Science raw score distribution

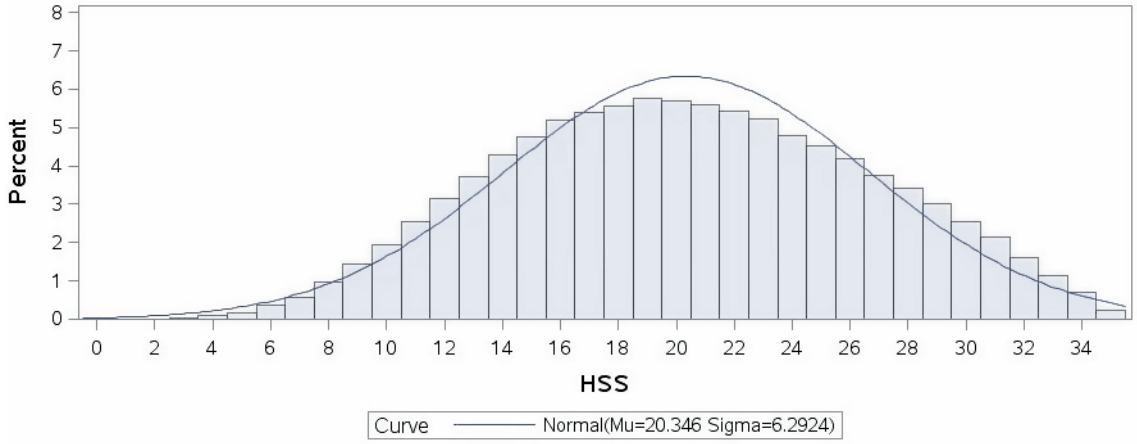


Figure A-6.16.5: Analysis in Science raw score distribution

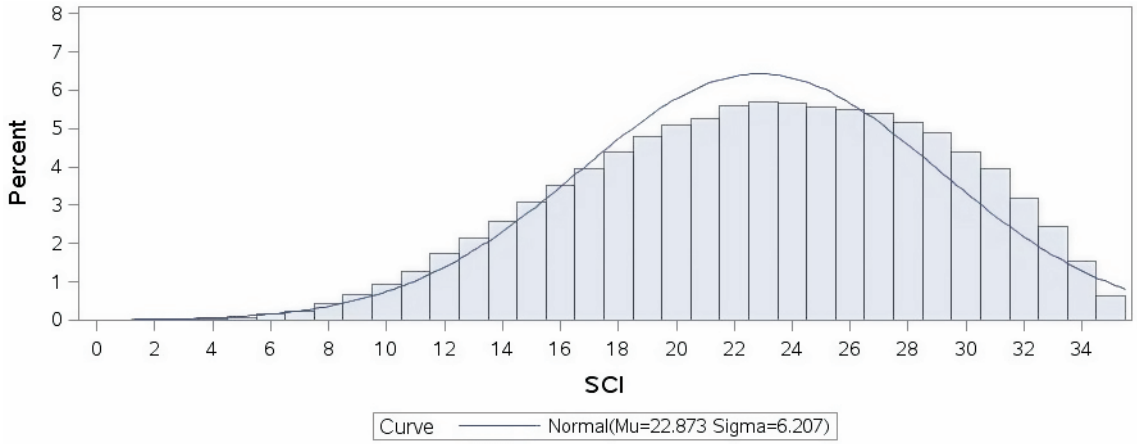


Figure A-6.16.6: Command of Evidence raw score distribution

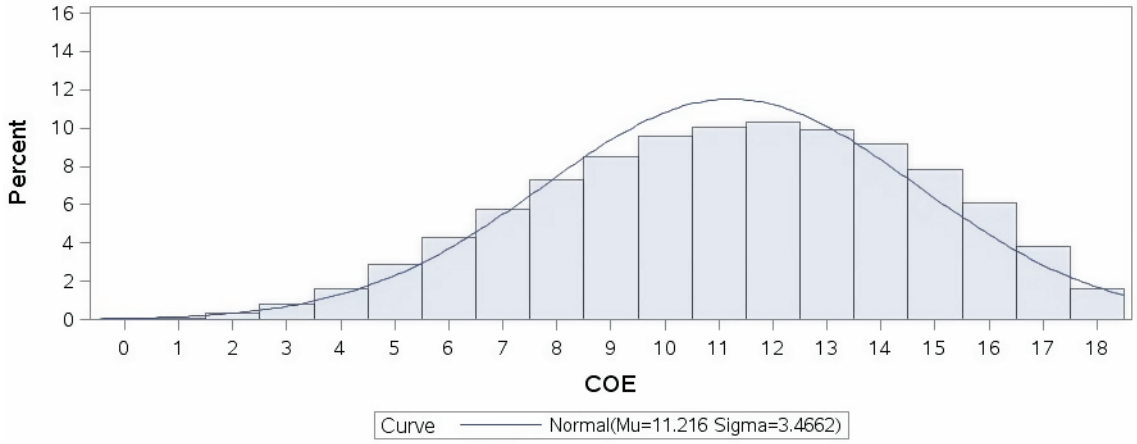


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Figure A-6.16.7: Words in Context raw score distribution

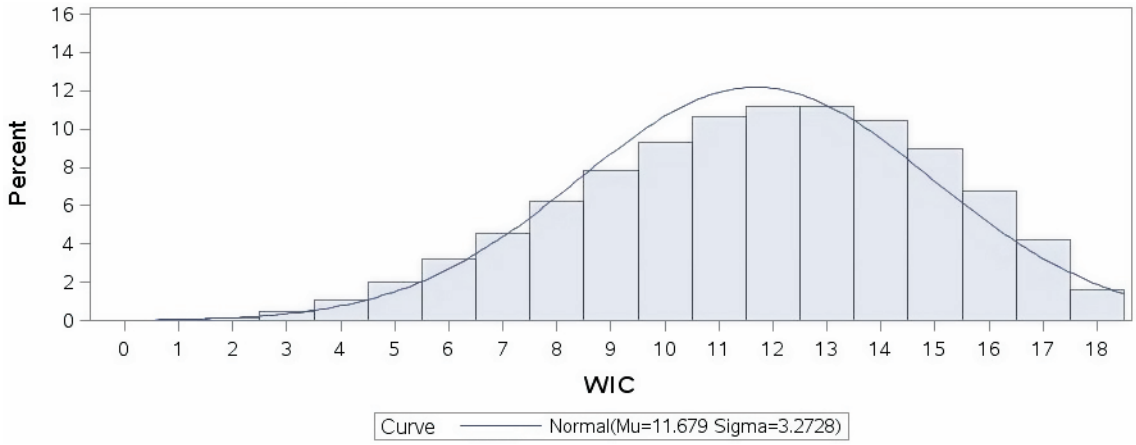


Figure A-6.16.8: Expression of Ideas raw score distribution

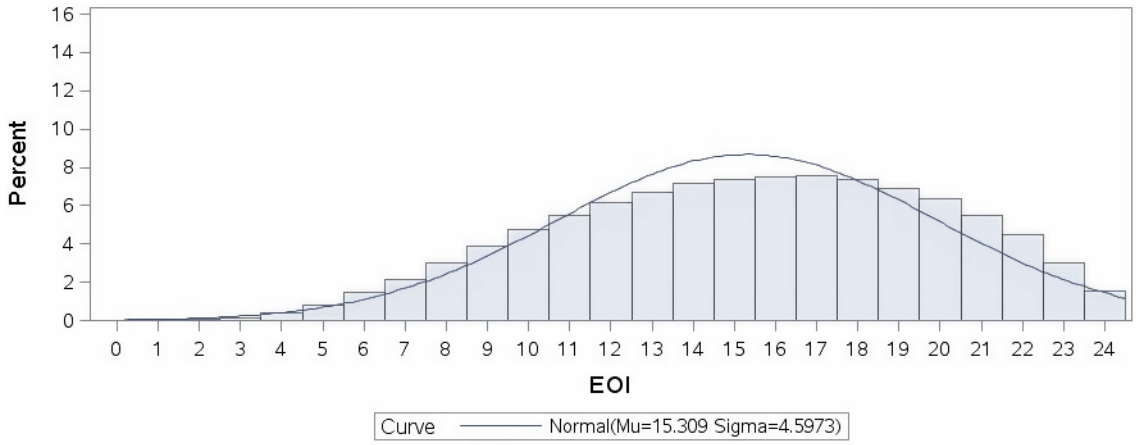


Figure A-6.16.9: Standard English Conventions raw score distribution

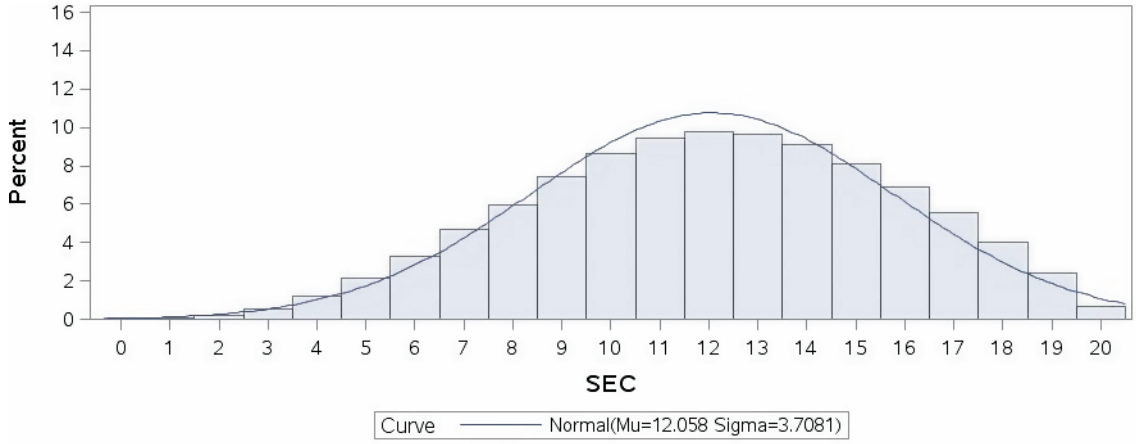


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Figure A-6.16 continued from previous page

Figure A-6.16.10: Heart of Algebra raw score distribution

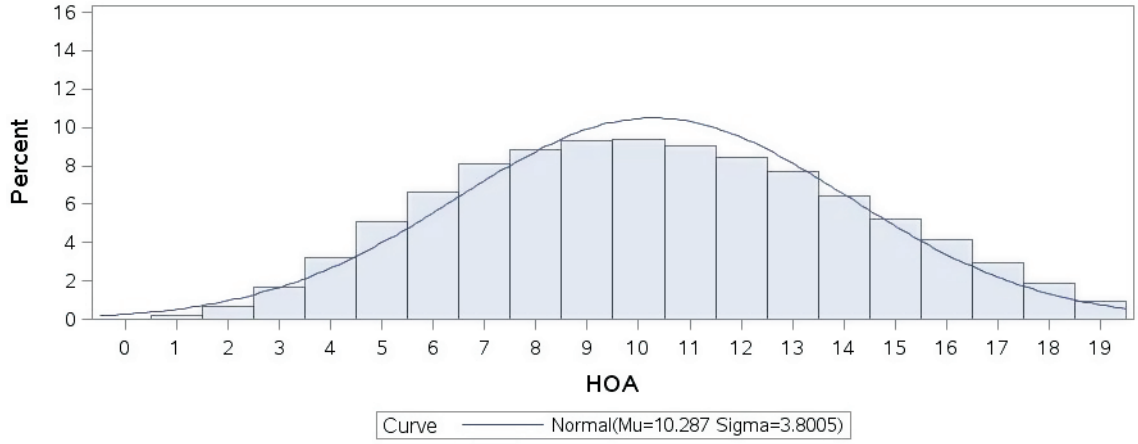


Figure A-6.16.11: Problem Solving and Data Analysis raw score distribution

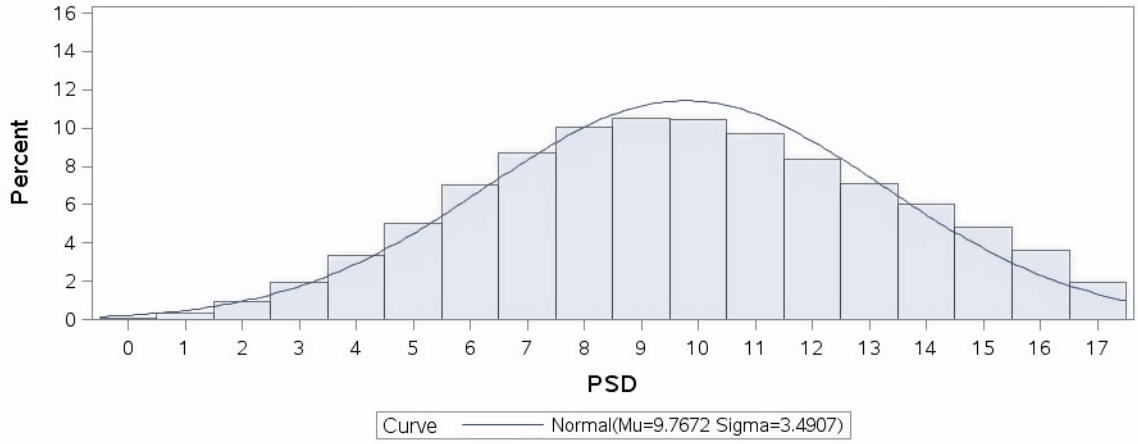
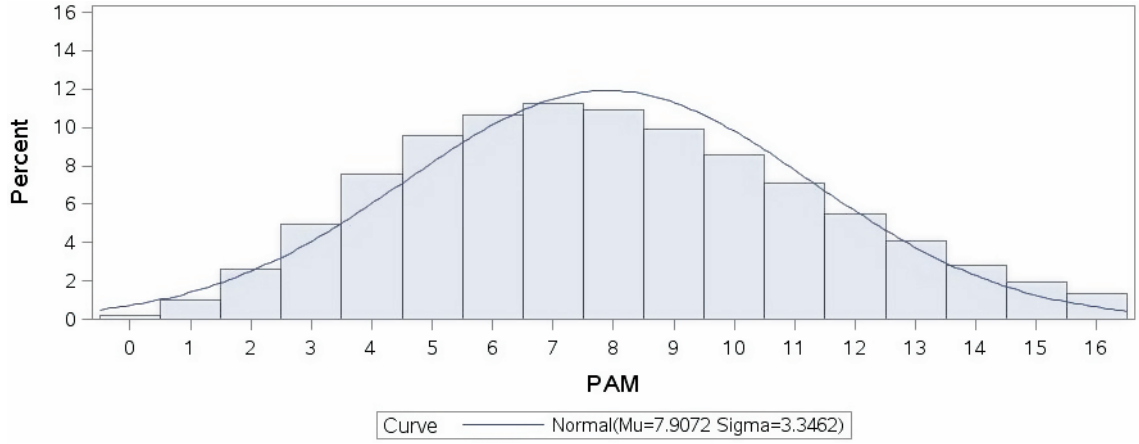


Figure A-6.16.12: Passport to Advanced Math raw score distribution



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Figure A-6.17: Raw score distributions for SAT Form 2

Figure A-6.17.1: Reading Test raw score distribution

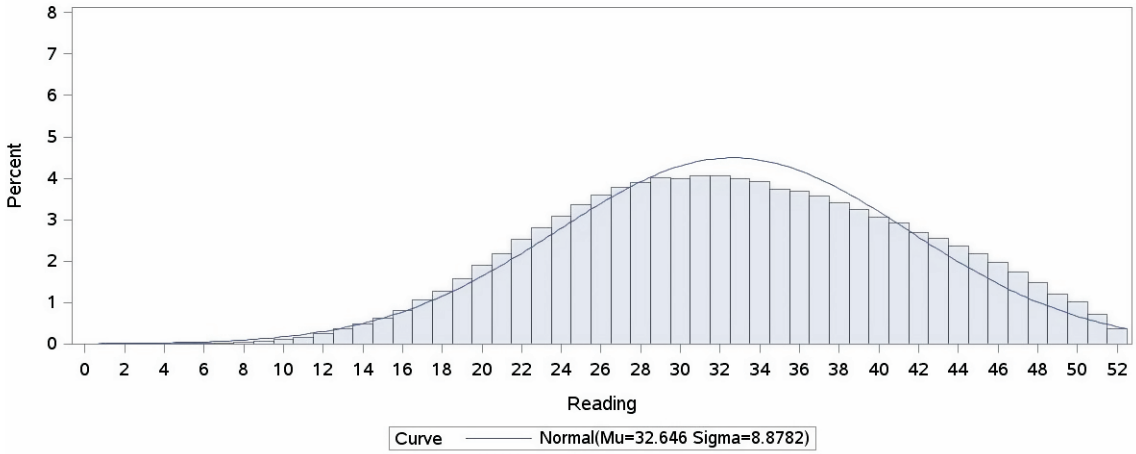


Figure A-6.17.2: Writing and Language Test raw score distribution

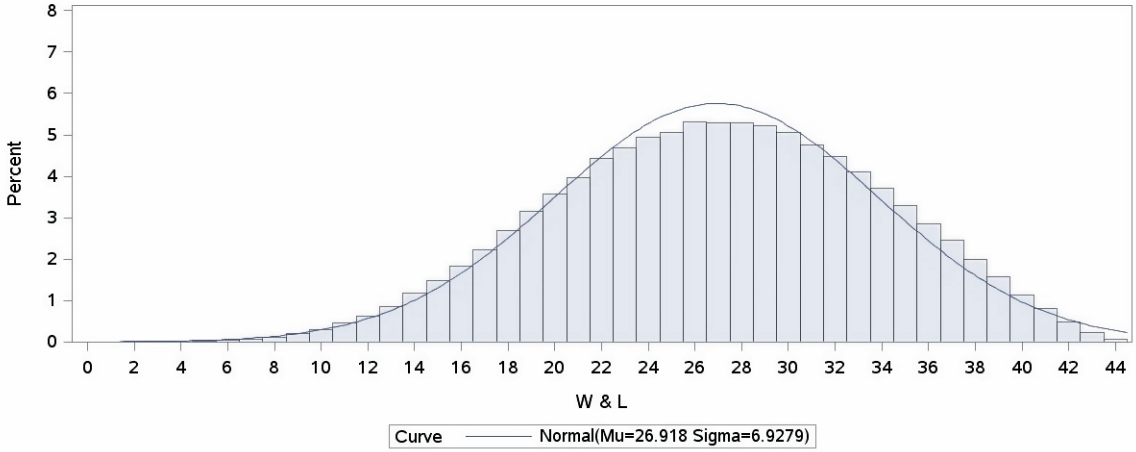


Figure A-6.17.3: Math Test raw score distribution

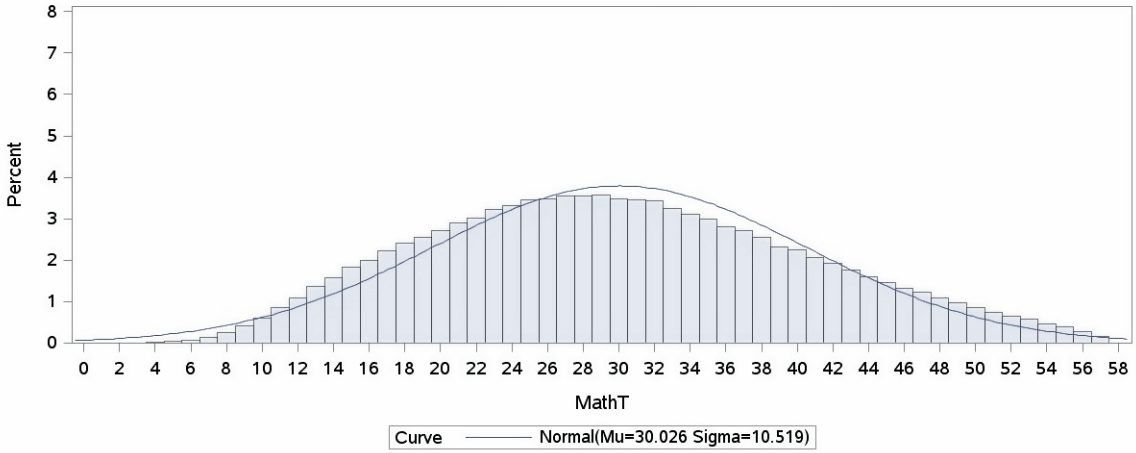


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Figure A-6.17 continued from previous page

Figure A-6.17.4: Analysis in History and Social Science raw score distribution

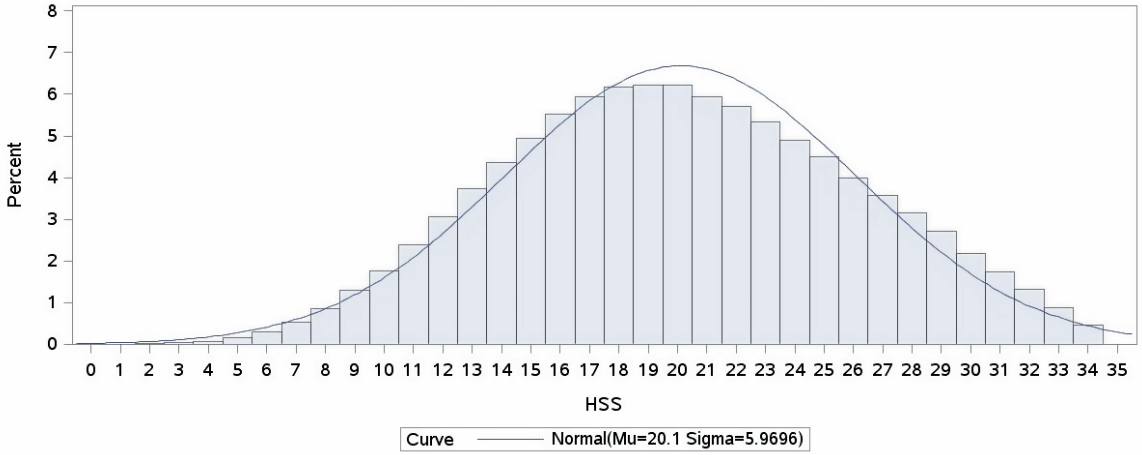


Figure A-6.17.5: Analysis in Science raw score distribution

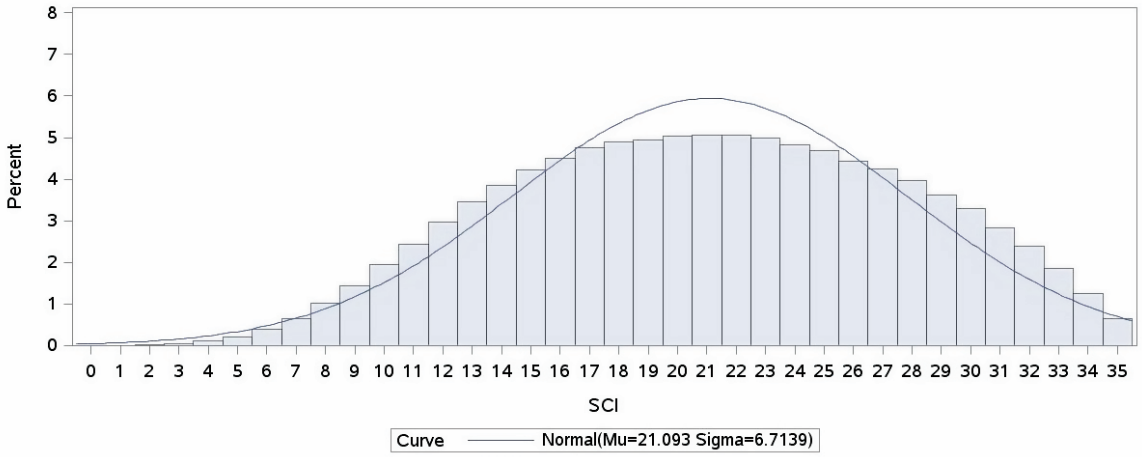


Figure A-6.17.6: Command of Evidence raw score distribution

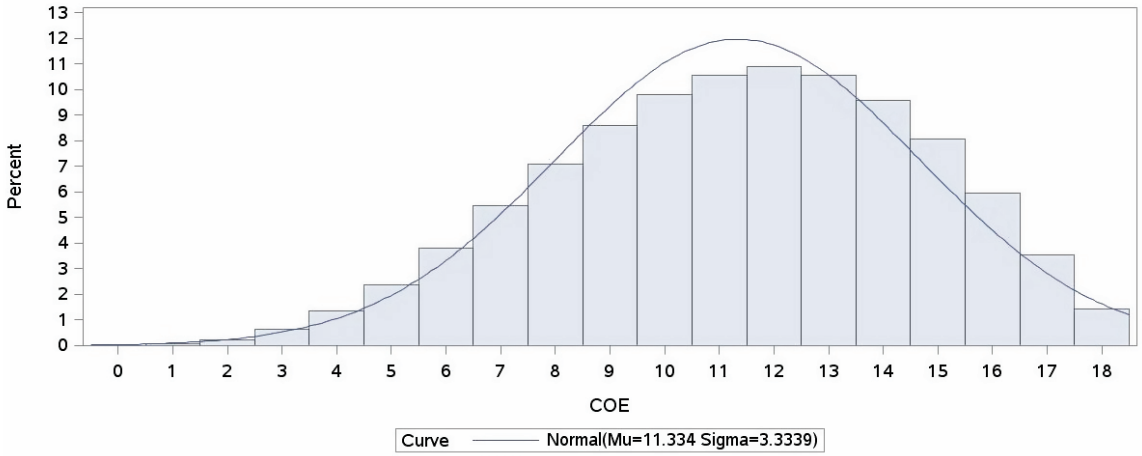


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Figure A-6.17 continued from previous page

Figure A-6.17.7: Words in Context raw score distribution

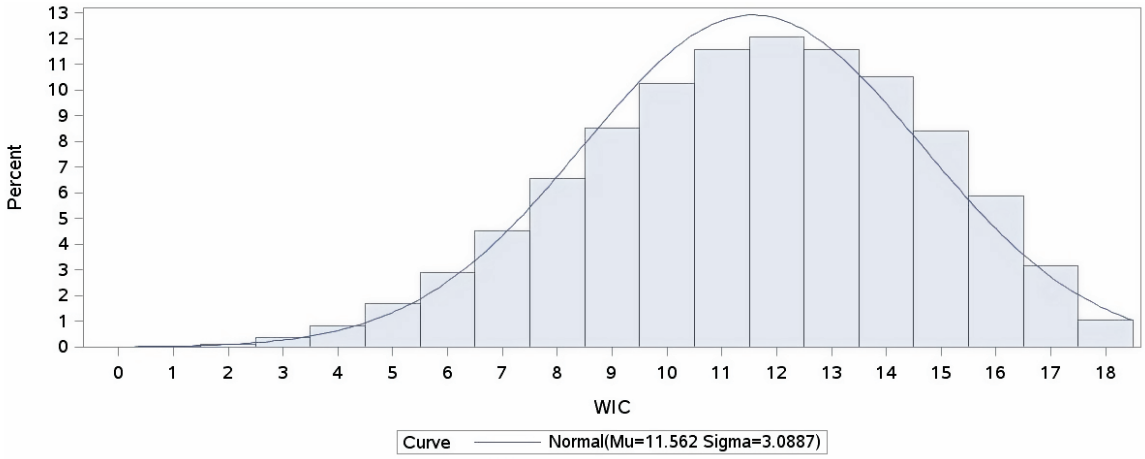


Figure A-6.17.8: Expression of Ideas raw score distribution

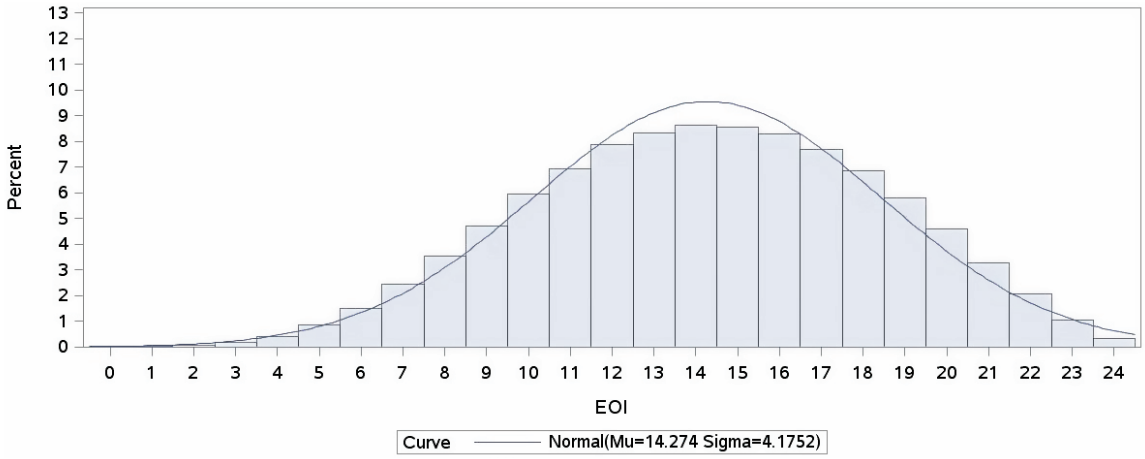


Figure A-6.17.9: Standard English Conventions raw score distribution

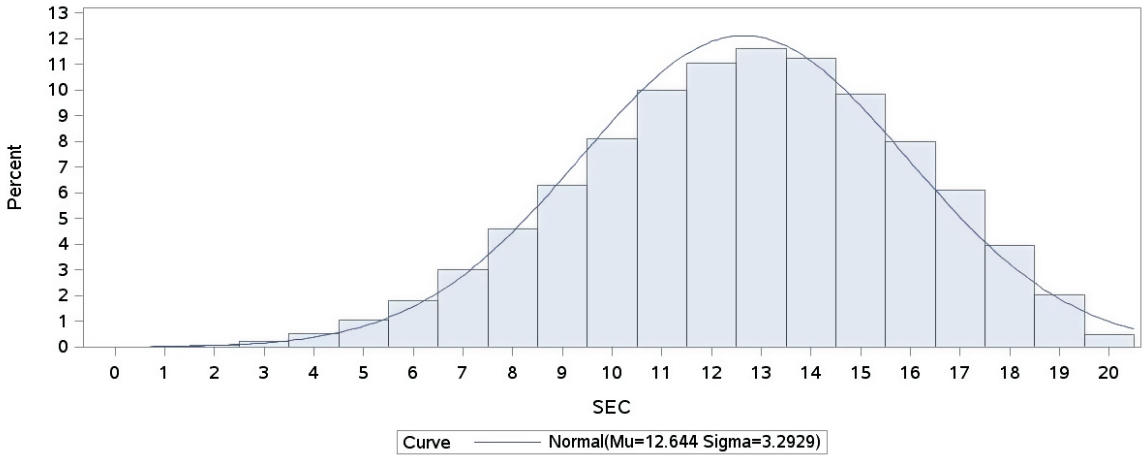


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Figure A-6.17.10: Heart of Algebra raw score distribution

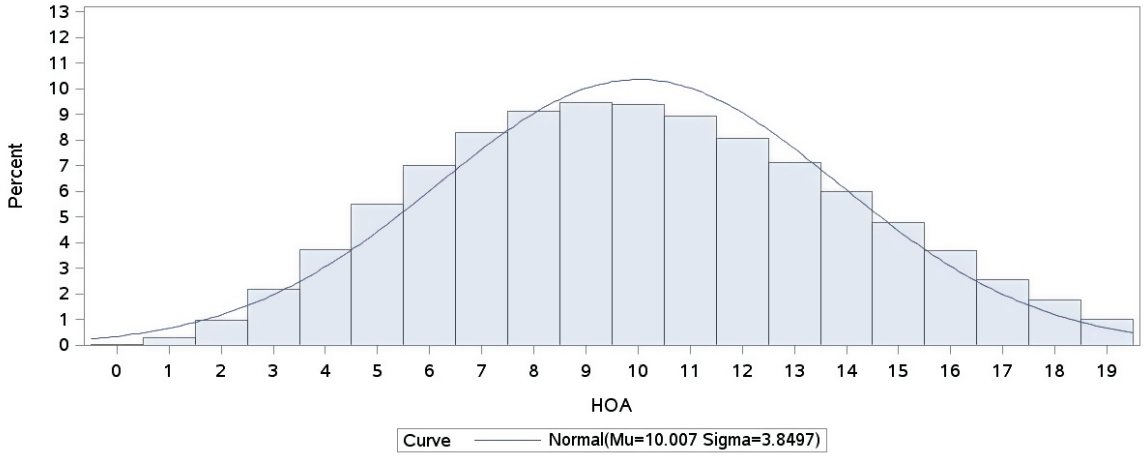


Figure A-6.17.11: Problem Solving and Data Analysis raw score distribution

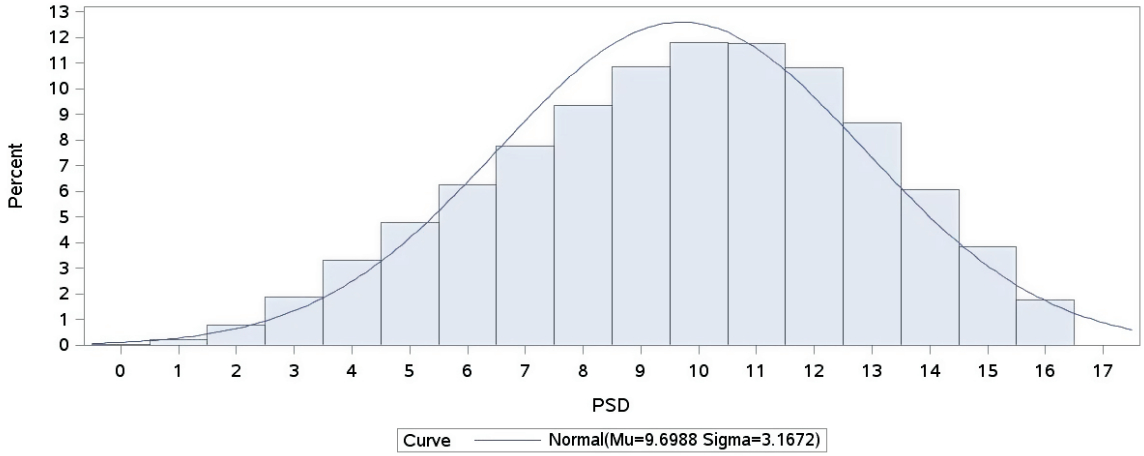
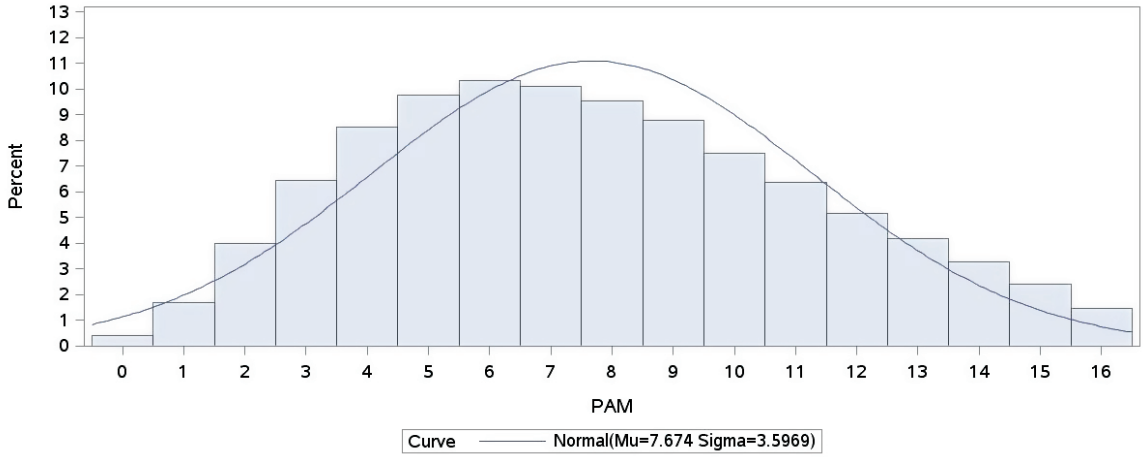


Figure A-6.17.12: Passport to Advanced Math raw score distribution



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Figure A-6.18: Raw score distributions for SAT Form 3

Figure A-6.18.1: Reading Test raw score distribution

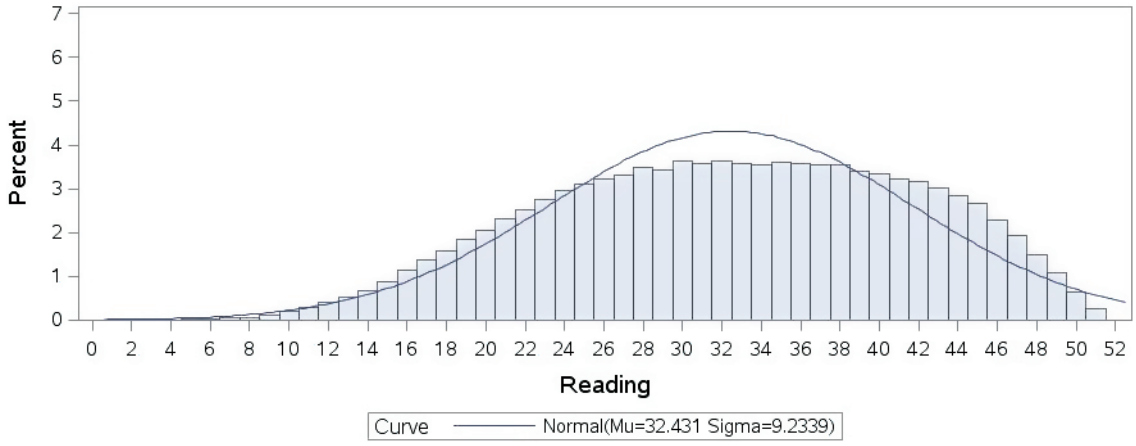


Figure A-6.18.2: Writing and Language Test raw score distribution

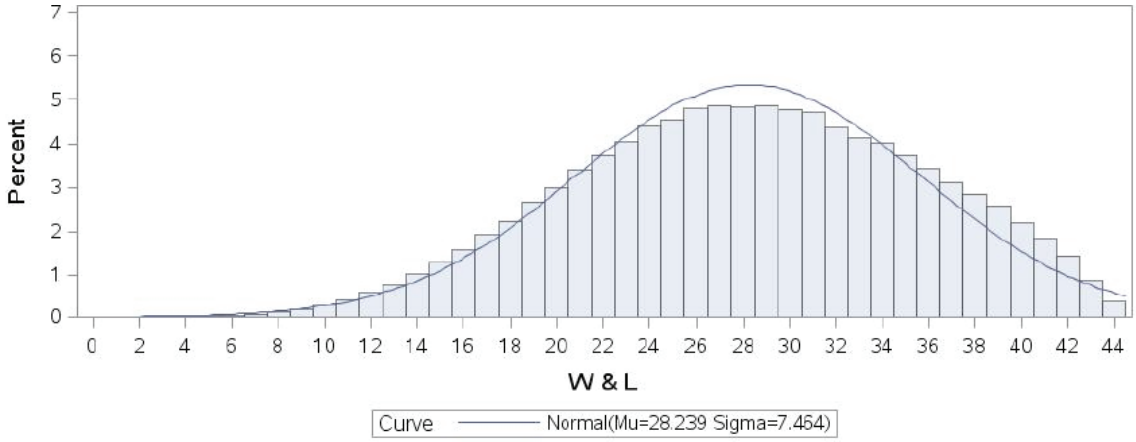


Figure A-6.18.3: Math Test raw score distribution

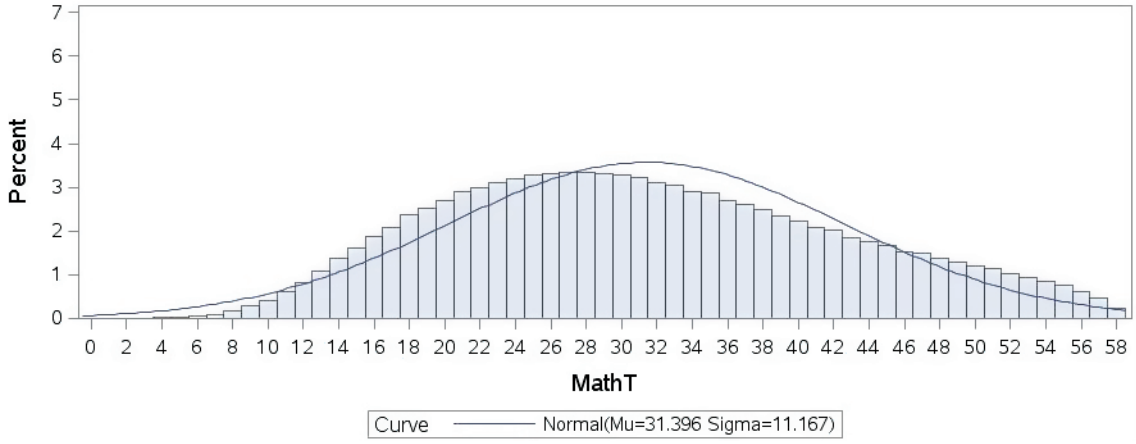


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Figure A-6.18.4: Analysis in History and Social Science raw score distribution

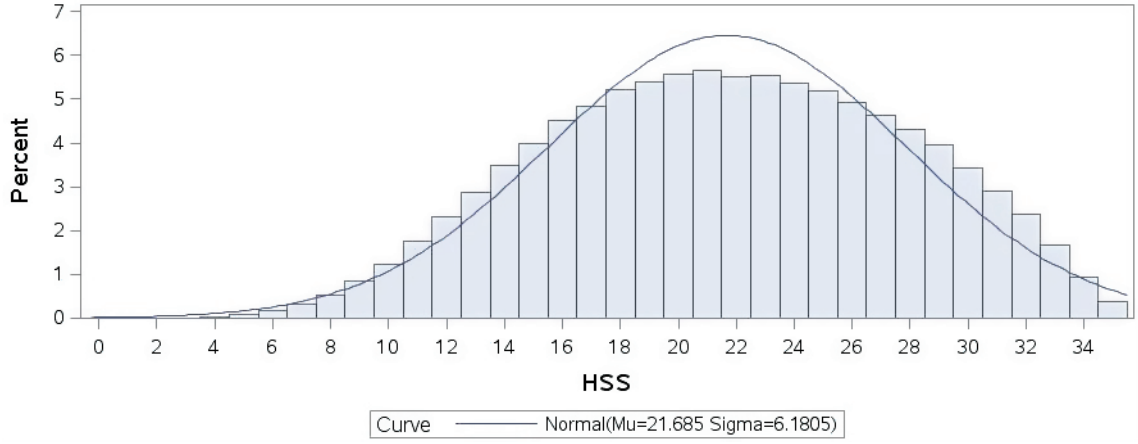


Figure A-6.18.5: Analysis in Science raw score distribution

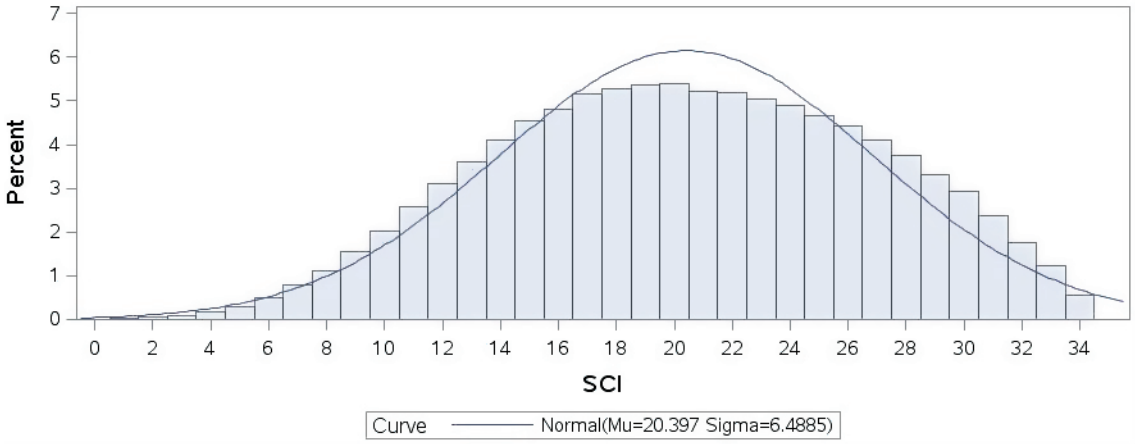


Figure A-6.18.6: Command of Evidence raw score distribution

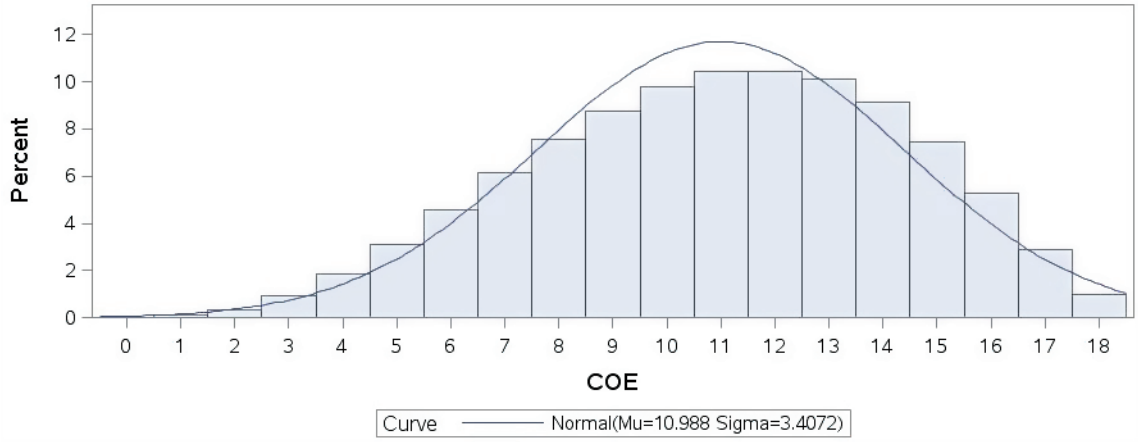


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Figure A-6.18.7: Words in Context raw score distribution

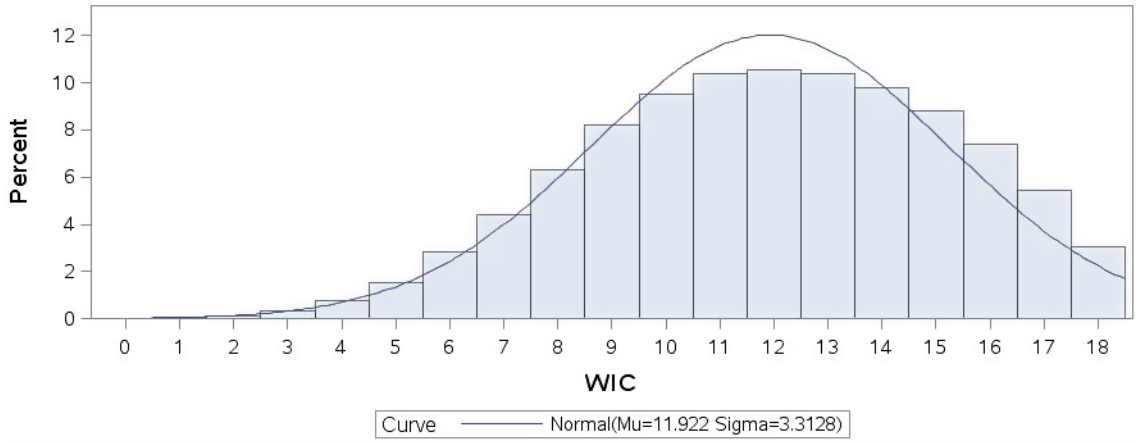


Figure A-6.18.8: Expression of Ideas raw score distribution

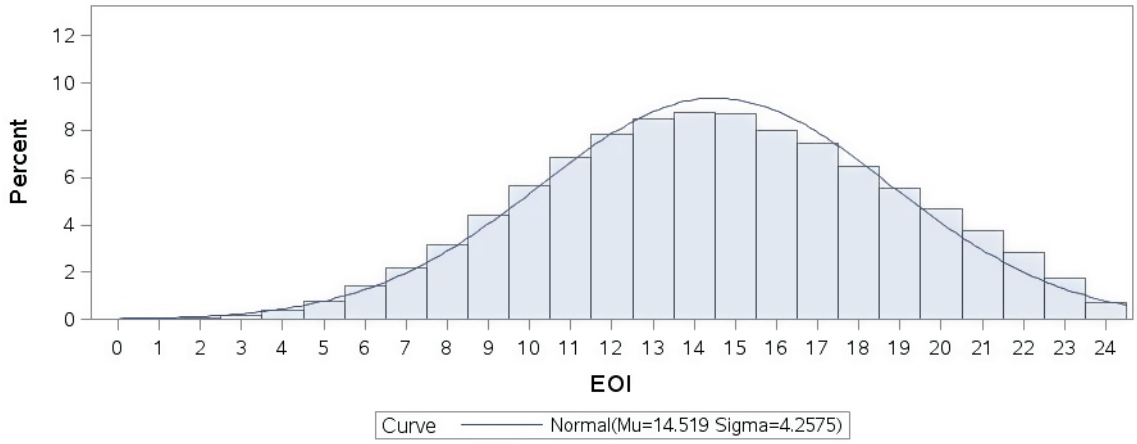


Figure A-6.18.9: Standard English Conventions raw score distribution

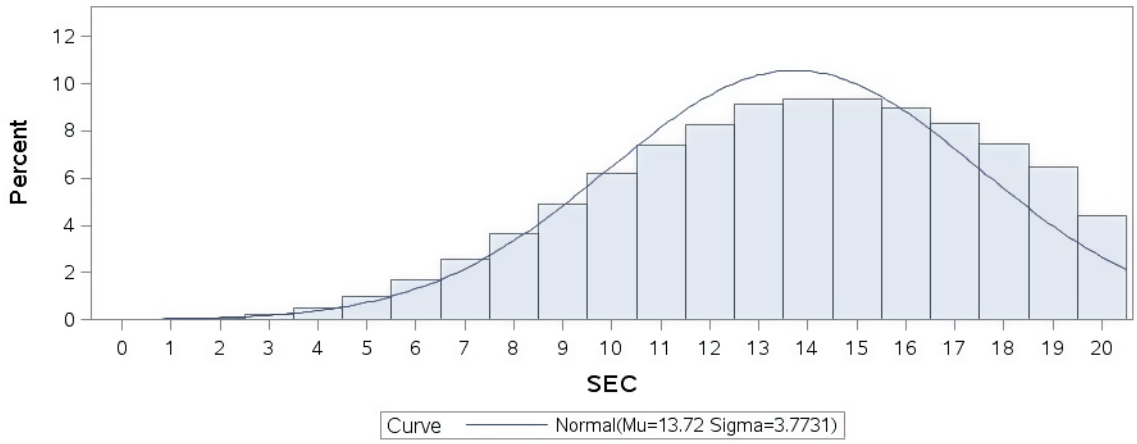


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Figure A-6.18.10: Heart of Algebra raw score distribution

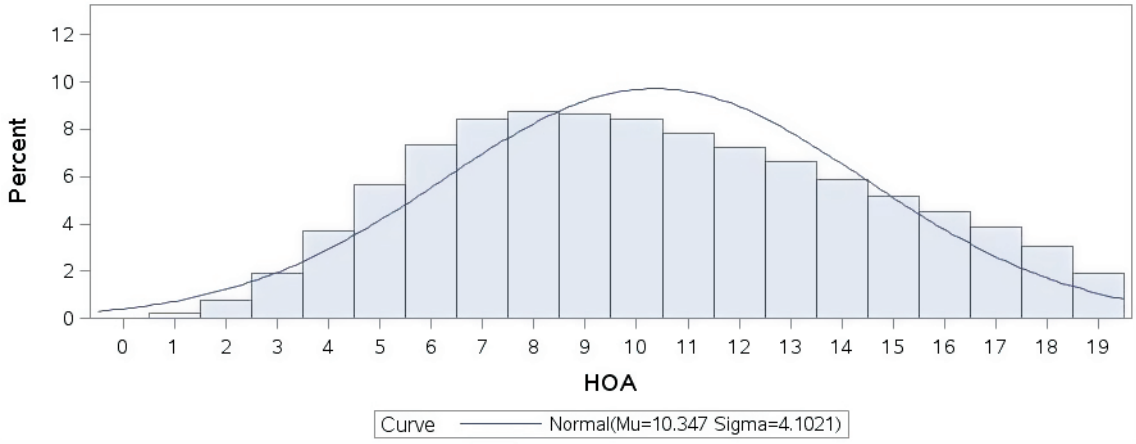


Figure A-6.18.11: Problem Solving and Data Analysis raw score distribution

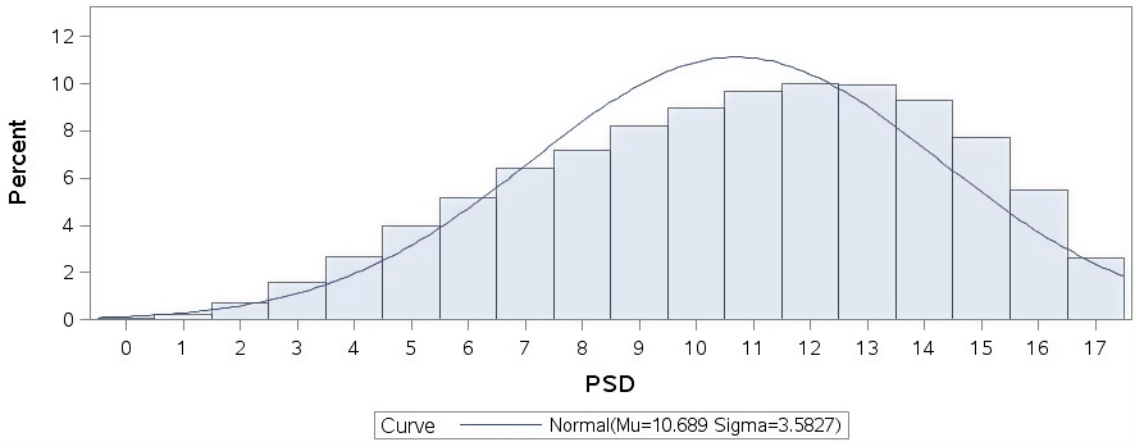
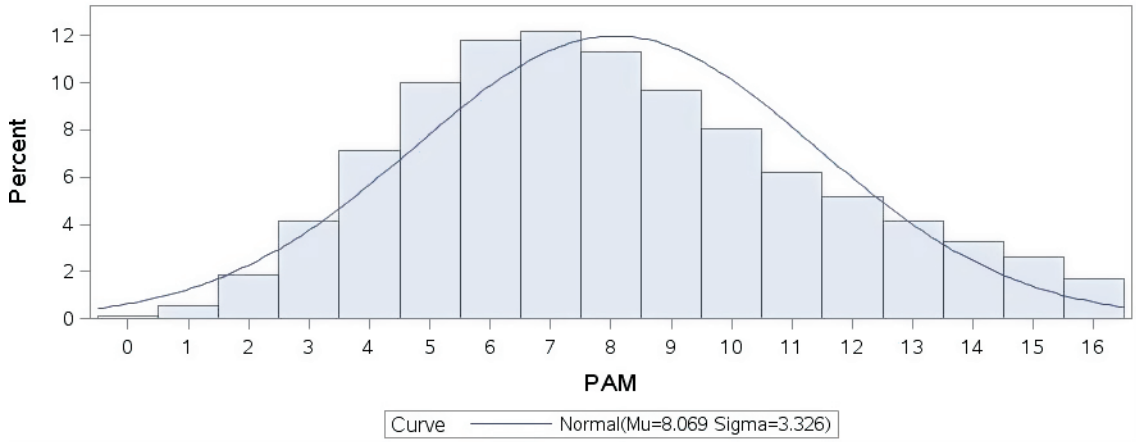


Figure A-6.18.12: Passport to Advanced Math raw score distribution



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