

## **Critical Evidence 2.1.1.a**

# **SAT Suite Technical Manual Appendixes (October 2017)**

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# SAT<sup>®</sup> Suite of Assessments Technical Manual Appendixes

October 2017

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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	<p><b>Learning, not memorizing.</b> 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.</p>
	<p><b>Connection to classroom learning and experience.</b> 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.</p>
	<p><b>Rights-only scoring.</b> 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.</p>
PSAT/NMSQT and PSAT 10	<p><b>Free resources for practice and review.</b> 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.</p>
	<p><b>Prepare students for college and career.</b> 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.</p>
	<p><b>Link to online, personalized pathway for practice through Khan Academy.</b> 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.</p>
	<p><b>Identify students who have potential to succeed in AP courses.</b> 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.</p>
	<p><b>Provide entry into scholarship programs.</b> 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.</p>

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Assessment	Benefits
	<p>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:</p> <ul style="list-style-type: none"> <li>▪ American Indian Graduate Center</li> <li>▪ Asian &amp; Pacific Islander American Scholarship Fund</li> <li>▪ Hispanic Scholarship Fund</li> <li>▪ Jack Kent Cooke Foundation</li> <li>▪ United Negro College Fund (UNCF)</li> </ul> <hr/> <p><b>Collect and use valuable data.</b> 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.</p> <hr/> <p><b>Identify skills for improvement.</b> 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.</p> <hr/> <p><b>Build a college-going culture.</b> 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.</p> <hr/> <p><b>Support college and career planning.</b> The College Board offers personalized college and career planning tools that allow students to search online for colleges, explore majors and careers, and more.</p>
PSAT 8/9	<hr/> <p><b>Sets a baseline for measuring student progress.</b> 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.</p> <hr/> <p><b>Prepares students for the PSAT/NMSQT, the PSAT 10, and the SAT.</b> 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.</p> <hr/> <p><b>Collects and uses valuable data.</b> 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.</p> <hr/> <p><b>Identifies skills for improvement.</b> 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.</p> <hr/> <p><b>Builds a college-going culture.</b> 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.</p> <hr/> <p><b>Supports college and career planning.</b> The College Board offers personalized college and career planning tools that allow students to search online for colleges, explore majors and careers, and more.</p>

**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
<b>Word Count</b> (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)
<b>Total Number of Items</b> (multiple choice [4 options], passage based)	42 items	47 items	52 items
<b>Passage Types</b>			
Single passage (500–750 words each)	4 passages	4 passages	4 passages
Paired passage (500–750 words total)	1 pair	1 pair	1 pair
<b>Passage Contents</b>			
U.S. and World Literature	1 passage	1 passage	1 passage
	2 passages	2 passages	2 passages
	OR	OR	OR
History/Social Studies	1 passage and 1 pair	1 passage and 1 pair	1 passage and 1 pair
	2 passages	2 passages	2 passages
	OR	OR	OR
Science	1 passage and 1 pair	1 passage and 1 pair	1 passage and 1 pair
<b>Text Complexity</b>			
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
<b>Item Counts by Passage Content</b>			
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
<b>Subscore and Cross-Test Score Contributions</b>			
<b>Subscores</b>			
Words in Context (Reading, Writing and Language)	10 items (2 per unit)	10 items (2 per unit)	10 items (2 per unit)
<b>Cross-Test Scores</b>			
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)
<b>Time Limits</b>	55 minutes	60 minutes	65 minutes

**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
<b>Word Count</b> (standard, six-character words)	(350–400 words per passage)	(400–450 words per passage)	(400–450 words per passage)
<b>Total Number of Items</b> (multiple choice [4 options], passage based)	40	44	44
<b>Passage Contents</b> (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
<b>Text Types</b>			
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
<b>Text Complexity</b>			
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
<b>Subscore and Cross-Test Score Contributions</b>			
<b>Subscores</b>			
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
<b>Cross-Test Scores</b>			
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)
<b>Time Limits</b>	30 minutes	35 minutes	35 minutes

**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
<b>Total Number of Items</b>	<b>38</b>	<b>48</b>	<b>58</b>
Multiple-choice (4 options) items	31	40	45
Student-produced response items	7	8	13
<b>Content Subscores</b>	<b>38</b>	<b>48</b>	<b>58</b>
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
<b>Cross-Test Subscore Contributions (Math, Reading, Writing and Language)</b>	<b>12</b>	<b>14</b>	<b>16</b>
Analysis in Science	6	7	8
Analysis in History/Social Studies	6	7	8
<b>Calculator Portion</b>			
<b>Total Number of Items</b>	<b>25</b>	<b>31</b>	<b>38</b>
Multiple-choice (4 options) items	21	27	30
Student-produced response items	4	4	8
<b>Content Subscores</b>	<b>25</b>	<b>31</b>	<b>38</b>
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
<b>Time Allocated</b>	40 minutes	45 minutes	55 minutes

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

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

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

## APPENDIX 2

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# 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."

## APPENDIX 3

# Test Development Procedures

Table A-3.1: SAT Reading Test Content Specifications

	Number	Percentage of Test
<b>Time Allotted</b>	65 minutes	
<b>Passage Word Count</b>	3,250 words total from 4 single passages and 1 pair; 500–750 words per passage or paired set	
<b>Total Questions</b>	52 questions	100%
Multiple choice (4 options)		100%
Passage based		100%
<b>Contribution of Items to Subscores and Scores</b>		
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%
<b>Passage Contents</b>		
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%
<b>Graphics</b>		
	1–2 graphics in 1 History/Social Studies and 1 Science passage	
<b>Text and Graphical Complexity</b>		
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)	

**Table A-3.2: SAT Reading Domain**

Content Dimension	Description
<b>Text Complexity</b>	The passages/pair on the SAT Reading Test represent a range of text complexities from grades 9–10 to postsecondary entry.
<b>Information and Ideas</b>	These questions focus on the informational content of text.
<b><i>Reading closely</i></b>	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.
<b><i>Citing textual evidence</i></b>	The student will cite the textual evidence that best supports a given claim or point.
<b><i>Determining central ideas and themes</i></b>	The student will identify explicitly stated central ideas or themes in text and determine implicit central ideas or themes from text.
<b><i>Summarizing</i></b>	The student will identify a reasonable summary of a text or of key information and ideas in text.
<b><i>Understanding relationships</i></b>	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).
<b><i>Interpreting words and phrases in context</i></b>	The student will determine the meaning of words and phrases in context.
<b>Rhetoric</b>	These questions focus on words and phrases in context and on the rhetorical analysis of text.
<b><i>Analyzing word choice</i></b>	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.
<b><i>Analyzing text structure</i></b>	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.
<b><i>Analyzing point of view</i></b>	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.
<b><i>Analyzing purpose</i></b>	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
<b>Analyzing arguments</b>	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.
<b>Synthesis</b>	These questions focus on synthesizing multiple sources of information and on analyzing arguments.
<b>Analyzing quantitative information</b>	The student will analyze information presented quantitatively in such forms as graphs, charts, and tables and relate that information to information presented in text.
<b>Analyzing multiple texts</b>	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.)



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

	Number	Percentage of Test
<b>Time Allotted</b>	35 minutes	
<b>Word Count</b>	1,700 words total from 4 passages; 400–450 words per passage	
<b>Total Questions</b>	44 questions	100%
Multiple choice (4 options)		100%
Passage based		100%
<b>Contribution of Items to Subscores and Scores</b>		
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%
<b>Passage Contents</b>		
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%
<b>Graphics</b>		
	1 or more graphics in 1 or more sets of questions	
<b>Text Types</b>		
Argument	1–2 passages	25%–50%
Informative/Explanatory Text	1–2 passages	25%–50%
Nonfiction Narrative	1 passage	25%
<b>Text and Graphical Complexity</b>		
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)	

**Table A-3.4: SAT Writing and Language Domain**

<b>Content Dimension</b>	<b>Description</b>
<b>Text Complexity</b>	The passages on the SAT Writing and Language Test represent a range of text complexities from grades 9–10 to postsecondary entry.
<b>Expression of Ideas</b>	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.
<b>Development</b>	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.
<b>Organization</b>	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.
<b>Effective language use</b>	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
<b>Standard English Conventions</b>	These questions focus on editing text to ensure conformity to the conventions of standard written English sentence structure, usage, and punctuation.
<b>Sentence structure</b>	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.
<i>Sentence boundaries</i>	The student will recognize and correct grammatically incomplete sentences (e.g., rhetorically inappropriate fragments and run-ons).
<i>Subordination and coordination</i>	The student will recognize and correct problems in coordination and subordination in sentences.
<i>Parallel structure</i>	The student will recognize and correct problems in parallel structure in sentences.
<i>Modifier placement</i>	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.
<i>Verb tense, mood, and voice</i>	The student will recognize and correct inappropriate shifts in verb tense, voice, and mood within and between sentences.
<i>Pronoun person and number</i>	The student will recognize and correct inappropriate shifts in pronoun person and number within and between sentences.
<b>Conventions of Usage</b>	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.
<i>Pronoun clarity</i>	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 ( <i>its, your, their</i> ), contractions ( <i>it's, you're, they're</i> ), and adverbs ( <i>there</i> ) are confused with each other.
Agreement	These questions focus on ensuring grammatical agreement.
<i>Pronoun–antecedent agreement</i>	The student will recognize and correct lack of agreement between pronoun and antecedent.
<i>Subject–verb agreement</i>	The student will recognize and correct lack of agreement between subject and verb.
<i>Noun agreement</i>	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., <i>accept/except, allusion/illusion</i> ).

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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.
<b>Conventions of Punctuation</b>	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.

**Table A-3.5: SAT Math Test Content Specifications**

	Number	Percentage of Test
<b>Time Allotted: Total</b>	80 minutes	
Calculator Portion (38 questions worth 38 points)	55 minutes	
No-Calculator Portion (20 questions worth 20 points)	25 minutes	
<b>Total Items</b>	58 questions	100%
Multiple choice (MC, 4 options)	45 questions	78%
Student-produced response (SPR—grid-in)	13 questions	22%
<b>Contribution of Items to Subscores</b>		
Heart of Algebra	19 questions	33%
<ul style="list-style-type: none"> <li>▪ Analyzing and fluently solving equations and systems of equations</li> <li>▪ Creating expressions, equations, and inequalities to represent relationships between quantities and to solve problems</li> <li>▪ Rearranging and interpreting formulas</li> </ul>		
Problem Solving and Data Analysis	17 questions	29%
<ul style="list-style-type: none"> <li>▪ Creating and analyzing relationships using ratios, proportions, percentages, and units</li> <li>▪ Describing relationships shown graphically</li> <li>▪ Summarizing qualitative and quantitative data</li> </ul>		
Passport to Advanced Math	16 questions	28%
<ul style="list-style-type: none"> <li>▪ Rewriting expressions using their structure</li> <li>▪ Creating, analyzing, and fluently solving quadratic and higher-order equations</li> <li>▪ Manipulating polynomials purposefully to solve problems</li> </ul>		
Additional Topics in Math*	6 questions	10%
<ul style="list-style-type: none"> <li>▪ Making area and volume calculations in context</li> <li>▪ Investigating lines, angles, triangles, and circles using theorems</li> <li>▪ Working with trigonometric functions</li> </ul>		
<b>Contribution of Items to Across-Test Scores</b>		
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.

**Table A-3.6: SAT Math Test Domains**

Content Dimension	Description
<b>Heart of Algebra</b>	
<b>Linear equations in one variable</b>	<ul style="list-style-type: none"> <li>▪ Create and use linear equations in one variable to solve problems in a variety of contexts.</li> <li>▪ Create a linear equation in one variable, and when in context interpret solutions in terms of the context.</li> <li>▪ Solve a linear equation in one variable, making strategic use of algebraic structure.</li> <li>▪ For a linear equation in one variable:               <ul style="list-style-type: none"> <li>♦ interpret a constant, variable, factor or term in a context; and</li> <li>♦ determine the conditions under which the equation has no solution, a unique solution, or infinitely many solutions.</li> </ul> </li> <li>▪ Fluently solve a linear equation in one variable.</li> </ul>
<b>Linear functions</b>	<p>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.</p> <ul style="list-style-type: none"> <li>▪ Create and use linear functions to solve problems in a variety of contexts.</li> <li>▪ Create a linear function to model a relationship between two quantities.</li> <li>▪ For a linear function that represents a context:               <ul style="list-style-type: none"> <li>♦ 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;</li> <li>♦ given an input value, find and/or interpret the output value using the given representation; and</li> <li>♦ given an output value, find and/or interpret the input value using the given representation, if it exists.</li> </ul> </li> <li>▪ Make connections between verbal, tabular, algebraic, and graphical representations of a linear function by:               <ul style="list-style-type: none"> <li>♦ deriving one representation from the other;</li> <li>♦ identifying features of one representation given another representation; and</li> <li>♦ determining how a graph is affected by a change to its equation.</li> </ul> </li> <li>▪ Write the rule for a linear function given two input/output pairs or one input/output pair and the rate of change.</li> </ul>

*Table A-3.6 continued on next page*

Table A-3.6 continued from previous page

Content Dimension	Description
<p><b>Linear equations in two variables</b></p>	<p>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.</p> <ul style="list-style-type: none"> <li>▪ Create and use a linear equation in two variables to solve problems in a variety of contexts.</li> <li>▪ Create a linear equation in two variables to model a constraint or condition on two quantities.</li> <li>▪ For a linear equation in two variables that represents a context:               <ul style="list-style-type: none"> <li>♦ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and</li> <li>♦ given a value of one quantity in the relationship, find a value of the other, if it exists.</li> </ul> </li> <li>▪ Make connections between tabular, algebraic, and graphical representations of a linear equation in two variables by:               <ul style="list-style-type: none"> <li>♦ deriving one representation from the other;</li> <li>♦ identifying features of one representation given the other representation; and</li> <li>♦ determining how a graph is affected by a change to its equation.</li> </ul> </li> <li>▪ 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.</li> </ul>
<p><b>Systems of two linear equations in two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use a system of two linear equations in two variables to solve problems in a variety of contexts.</li> <li>▪ Create a system of linear equations in two variables, and when in context interpret solutions in terms of the context.</li> <li>▪ Make connections between tabular, algebraic, and graphical representations of the system by deriving one representation from the other.</li> <li>▪ Solve a system of two linear equations in two variables, making strategic use of algebraic structure.</li> <li>▪ For a system of linear equations in two variables:               <ul style="list-style-type: none"> <li>♦ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and</li> <li>♦ determine the conditions under which the system has no solution, a unique solution, or infinitely many solutions.</li> </ul> </li> <li>▪ Fluently solve a system of linear equations in two variables.</li> </ul>
<p><b>Linear inequalities in one or two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use linear inequalities in one or two variables to solve problems in a variety of contexts.</li> <li>▪ Create linear inequalities in one or two variables, and when in context interpret the solutions in terms of the context.</li> <li>▪ For linear inequalities in one or two variables, interpret a constant, variable, factor, or term, including situations where seeing structure provides an advantage.</li> <li>▪ Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other.</li> <li>▪ Given a linear inequality or system of linear inequalities, interpret a point in the solution set.</li> </ul>

Table A-3.6 continued on next page

Table A-3.6 continued from previous page

Content Dimension	Description
<b>Problem Solving and Data Analysis</b>	
<b>Ratios, rates, proportional relationships, and units</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ Solve problems involving:               <ul style="list-style-type: none"> <li>♦ derived units, including those that arise from products (e.g., kilowatt-hours) and quotients (e.g., population per square kilometer); and</li> <li>♦ unit conversion, including currency exchange and conversion between different measurement systems.</li> </ul> </li> <li>▪ 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.</li> </ul>
<b>Percentages</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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%.</li> </ul>
<b>One-variable data: distribution and measures of center and spread</b>	<ul style="list-style-type: none"> <li>▪ Choose an appropriate graphical representation for a given data set.</li> <li>▪ Interpret information from a given representation of data in context.</li> <li>▪ Analyze and interpret numerical data distributions represented with frequency tables, histograms, dot plots, and boxplots.</li> <li>▪ For quantitative variables, calculate, compare, and interpret mean, median, and range. Interpret (but don't calculate) standard deviation.</li> <li>▪ 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.</li> <li>▪ Understand and describe the effect of outliers on mean and median.</li> <li>▪ Given an appropriate data set, calculate the mean.</li> </ul>
<b>Two-variable data: models and scatterplots</b>	<ul style="list-style-type: none"> <li>▪ Using a model that fits the data in a scatterplot, compare values predicted by the model to values given in the data set.</li> <li>▪ Interpret the slope and intercepts of the line of best fit in context.</li> <li>▪ Given a relationship between two quantities, read and interpret graphs and tables modeling the relationship.</li> <li>▪ Analyze and interpret data represented in a scatterplot or line graph; fit linear, quadratic, and exponential models.</li> <li>▪ Select a graph that represents a context, identify a value on a graph, or interpret information on the graph.</li> <li>▪ For a given function type (linear, quadratic, exponential), choose the function of that type that best fits given data.</li> <li>▪ Compare linear and exponential growth.</li> <li>▪ Estimate the line of best fit for a given scatterplot; use the line to make predictions</li> </ul>

Table A-3.6 continued on next page



Table A-3.6 continued from previous page

Content Dimension	Description
<b>Probability and conditional probability</b>	<p>Use one- and two-way tables, tree diagrams, area models, and other representations to find relative frequency, probabilities, and conditional probabilities.</p> <ul style="list-style-type: none"> <li>▪ Compute and interpret probability and conditional probability in simple contexts.</li> <li>▪ Understand formulas for probability and conditional probability in terms of frequency.</li> </ul>
<b>Inference from sample statistics and margin of error</b>	<ul style="list-style-type: none"> <li>▪ Use sample mean and sample proportion to estimate population mean and population proportion. Utilize, but do not calculate, margin of error.</li> <li>▪ Interpret margin of error; understand that a larger sample size generally leads to a smaller margin of error.</li> </ul>
<b>Evaluating statistical claims: observational studies and experiments</b>	<ul style="list-style-type: none"> <li>▪ With random samples, describe which population the results can be extended to.</li> <li>▪ Given a description of a study with or without random assignment, determine whether there is evidence for a causal relationship.</li> <li>▪ Understand why random assignment provides evidence for a causal relationship.</li> <li>▪ Understand why a result can be extended only to the population from which the sample was selected.</li> </ul>
<b>Passport to Advanced Math</b>	
<b>Equivalent expressions</b>	<ul style="list-style-type: none"> <li>▪ Make strategic use of algebraic structure and the properties of operations to identify and create equivalent expressions, including:               <ul style="list-style-type: none"> <li>♦ rewriting simple rational expressions;</li> <li>♦ rewriting expressions with rational exponents and radicals; and</li> <li>♦ factoring polynomials.</li> </ul> </li> <li>▪ Fluently add, subtract, and multiply polynomials.</li> </ul>
<b>Nonlinear equations in one variable and systems of equations in two variables</b>	<ul style="list-style-type: none"> <li>▪ Make strategic use of algebraic structure, the properties of operations, and reasoning about equality to:               <ul style="list-style-type: none"> <li>♦ 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;</li> <li>♦ solve simple rational and radical equations in one variable;</li> <li>♦ 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);</li> <li>♦ solve polynomial equations in one variable that are written in factored form;</li> <li>♦ solve linear absolute value equations in one variable; and</li> <li>♦ solve systems of linear and nonlinear equations in two variables, including relating the solutions to the graphs of the equations in the system.</li> </ul> </li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ 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.</li> </ul>

Table A-3.6 continued on next page

Table A-3.6 continued from previous page

Content Dimension	Description
<p><b>Nonlinear functions</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use quadratic or exponential functions to solve problems in a variety of contexts.</li> <li>▪ For a quadratic or exponential function:               <ul style="list-style-type: none"> <li>♦ identify or create an appropriate function to model a relationship between quantities;</li> <li>♦ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph;</li> <li>♦ 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;</li> <li>♦ 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</li> <li>♦ 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.</li> </ul> </li> <li>▪ For a factorable or factored polynomial or simple rational function:               <ul style="list-style-type: none"> <li>♦ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph;</li> <li>♦ understand and use the fact that for the graph of <math>y = f(x)</math>, the solutions to <math>f(x) = 0</math> correspond to <math>x</math>-intercepts of the graph and <math>f(0)</math> corresponds to the <math>y</math>-intercept of the graph; interpret these key features in terms of a context; and</li> <li>♦ identify the graph given an algebraic representation of the function and an algebraic representation given the graph (with or without a context).</li> </ul> </li> </ul>
<p><b>Additional Topics In Math</b></p>	
<p><b>Area and volume</b></p>	<ul style="list-style-type: none"> <li>▪ 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.               <ul style="list-style-type: none"> <li>♦ Apply knowledge that changing by a scale factor of <math>k</math> changes all lengths by a factor of <math>k</math>, changes all areas by a factor of <math>k^2</math>, and changes all volumes by a factor of <math>k^3</math>.</li> <li>♦ Demonstrate procedural fluency by selecting the correct area or volume formula and correctly calculating a specified value.</li> </ul> </li> </ul>

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Content Dimension	Description
<b>Lines, angles, and triangles</b>	<ul style="list-style-type: none"> <li>▪ Use concepts and theorems relating to congruence and similarity of triangles to solve problems.</li> <li>▪ Determine which statements may be required to prove certain relationships or to satisfy a given theorem.</li> <li>▪ Apply knowledge that changing by a scale factor of <math>k</math> changes all lengths by a factor of <math>k</math>, but angle measures remain unchanged.</li> <li>▪ Know and directly apply relevant theorems such as:               <ul style="list-style-type: none"> <li>♦ the vertical angle theorem;</li> <li>♦ triangle similarity and congruence criteria;</li> <li>♦ triangle angle sum theorem; and</li> <li>♦ the relationship of angles formed when a transversal cuts parallel lines.</li> </ul> </li> </ul>
<b>Right triangles and trigonometry</b>	<ul style="list-style-type: none"> <li>▪ Solve problems in a variety of contexts using:               <ul style="list-style-type: none"> <li>♦ the Pythagorean theorem;</li> <li>♦ right triangle trigonometry; and</li> <li>♦ properties of special right triangles.</li> </ul> </li> <li>▪ Use similarity to calculate values of sine, cosine, and tangent.</li> <li>▪ Understand that when given one side length and one acute angle measure in a right triangle, the remaining values can be determined.</li> <li>▪ Solve problems using the relationship between sine and cosine of complementary angles.</li> <li>▪ Fluently apply properties of special right triangles to determine side lengths and calculate trigonometric ratios of 30, 45, and 60 degrees.</li> </ul>
<b>Circles</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Solve problems using:               <ul style="list-style-type: none"> <li>♦ radian measure; and</li> <li>♦ trigonometric ratios in the unit circle.</li> </ul> </li> <li>▪ Create an equation to represent a circle in the <math>xy</math>-plane.</li> <li>▪ Describe how:               <ul style="list-style-type: none"> <li>♦ a change to the equation representing a circle in the <math>xy</math>-plane affects the graph of the circle; and</li> <li>♦ a change in the graph of the circle affects the equation of the circle.</li> </ul> </li> <li>▪ Understand that the ordered pairs that satisfy an equation of the form <math>(x - h)^2 + (y - k)^2 = r^2</math> form a circle when plotted in the <math>xy</math>-plane.</li> <li>▪ Convert between angle measures in degrees and radians.</li> <li>▪ Complete the square in an equation representing a circle to determine properties of the circle when it is graphed in the <math>xy</math>-plane and use the distance formula in problems related to circles.</li> </ul>
<b>Complex numbers</b>	<ul style="list-style-type: none"> <li>▪ Apply knowledge and understanding of the complex number system to add, subtract, multiply, and divide with complex numbers and solve problems.</li> </ul>

**Table A-3.7: Calculator Portion**

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

**Table A-3.8: No-Calculator Portion**

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

**Table A-3.9: SAT Heart of Algebra Domain**

Content Dimension	Description
<p><b>Linear equations in one variable</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use linear equations in one variable to solve problems in a variety of contexts.</li> <li>▪ Create a linear equation in one variable, and when in context interpret solutions in terms of the context.</li> <li>▪ Solve a linear equation in one variable, making strategic use of algebraic structure.</li> <li>▪ For a linear equation in one variable:               <ul style="list-style-type: none"> <li>♦ interpret a constant, variable, factor or term in a context; and</li> <li>♦ determine the conditions under which the equation has no solution, a unique solution, or infinitely many solutions.</li> </ul> </li> <li>▪ Fluently solve a linear equation in one variable.</li> </ul>
<p><b>Linear functions</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use linear functions to solve problems in a variety of contexts.</li> <li>▪ Create a linear function to model a relationship between two quantities.</li> <li>▪ For a linear function that represents a context:               <ul style="list-style-type: none"> <li>♦ 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;</li> <li>♦ given an input value, find and/or interpret the output value using the given representation; and</li> <li>♦ given an output value, find and/or interpret the input value using the given representation, if it exists.</li> </ul> </li> <li>▪ Make connections between verbal, tabular, algebraic, and graphical representations of a linear function, by:               <ul style="list-style-type: none"> <li>♦ deriving one representation from the other;</li> <li>♦ identifying features of one representation given another representation; and</li> <li>♦ determining how a graph is affected by a change to its equation.</li> </ul> </li> <li>▪ Write the rule for a linear function given two input/output pairs or one input/output pair and the rate of change.</li> </ul>
<p><b>Linear equations in two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use a linear equation in two variables to solve problems in a variety of contexts.</li> <li>▪ Create a linear equation in two variables to model a constraint or condition on two quantities.</li> <li>▪ For a linear equation in two variables that represents a context:               <ul style="list-style-type: none"> <li>♦ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and</li> <li>♦ given a value of one quantity in the relationship, find a value of the other, if it exists.</li> </ul> </li> <li>▪ Make connections between tabular, algebraic, and graphical representations of a linear equation in two variables by:               <ul style="list-style-type: none"> <li>♦ deriving one representation from the other;</li> <li>♦ identifying features of one representation given the other representation; and</li> <li>♦ determining how a graph is affected by a change to its equation.</li> </ul> </li> <li>▪ 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.</li> </ul>

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Content Dimension	Description
<p><b>Systems of two linear equations in two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use a system of two linear equations in two variables to solve problems in a variety of contexts.</li> <li>▪ Create a system of linear equations in two variables, and when in context interpret solutions in terms of the context.</li> <li>▪ Make connections between tabular, algebraic, and graphical representations of the system by deriving one representation from the other.</li> <li>▪ Solve a system of two linear equations in two variables, making strategic use of algebraic structure.</li> <li>▪ For a system of linear equations in two variables:               <ul style="list-style-type: none"> <li>♦ interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage; and</li> <li>♦ determine the conditions under which the system has no solution, a unique solution, or infinitely many solutions.</li> </ul> </li> <li>▪ Fluently solve a system of linear equations in two variables.</li> </ul>
<p><b>Linear inequalities in one or two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use linear inequalities in one or two variables to solve problems in a variety of contexts.</li> <li>▪ Create linear inequalities in one or two variables, and when in context interpret the solutions in terms of the context.</li> <li>▪ For linear inequalities in one or two variables, interpret a constant, variable, factor, or term, including situations where seeing structure provides an advantage.</li> <li>▪ Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other.</li> <li>▪ Given a linear inequality or system of linear inequalities, interpret a point in the solution set.</li> </ul>

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

Content Dimension	Description
<p><b>Ratios, rates, proportional relationships, and units</b></p>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Solve problems involving:               <ul style="list-style-type: none"> <li>♦ derived units including those that arise from products (e.g., kilowatt-hours) and quotients (e.g., population per square kilometer); and</li> <li>♦ unit conversion including currency exchange and conversion between different measurement systems.</li> </ul> </li> <li>▪ 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.</li> </ul>
<p><b>Percentages</b></p>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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%.</li> </ul>
<p><b>One-variable data: distributions and measures of center and spread</b></p>	<ul style="list-style-type: none"> <li>▪ Choose an appropriate graphical representation for a given data set.</li> <li>▪ Interpret information from a given representation of data in context.</li> <li>▪ Analyze and interpret numerical data distributions represented with frequency tables, histograms, dot plots, and boxplots.</li> <li>▪ For quantitative variables, calculate, compare, and interpret mean, median, and range. Interpret (but don't calculate) standard deviation.</li> <li>▪ 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.</li> <li>▪ Understand and describe the effect of outliers on mean and median.</li> <li>▪ Given an appropriate data set, calculate the mean.</li> </ul>
<p><b>Two-variable data: models and scatterplots</b></p>	<ul style="list-style-type: none"> <li>▪ Using a model that fits the data in a scatterplot, compare values predicted by the model to values given in the data set.</li> <li>▪ Interpret the slope and intercepts of the line of best fit in context.</li> <li>▪ Given a relationship between two quantities, read and interpret graphs and tables modeling the relationship.</li> <li>▪ Analyze and interpret data represented in a scatterplot or line graph; fit linear, quadratic, and exponential models.</li> <li>▪ Select a graph that represents a context, identify a value on a graph, or interpret information on the graph.</li> <li>▪ For a given function type (linear, quadratic, exponential), choose the function of that type that best fits given data.</li> <li>▪ Compare linear and exponential growth.</li> <li>▪ Estimate the line of best fit for a given scatterplot; use the line to make predictions.</li> </ul>

*Table A-3.10 continued on next page*

Table A-3.10 continued from previous page

Content Dimension	Description
<b>Probability and conditional probability</b>	<ul style="list-style-type: none"> <li>▪ Compute and interpret probability and conditional probability in simple contexts.</li> <li>▪ Understand formulas for probability and conditional probability in terms of frequency.</li> </ul>
<b>Inference from sample statistics and margin of error</b>	<ul style="list-style-type: none"> <li>▪ Use sample mean and sample proportion to estimate population mean and population proportion. Utilize, but do not calculate, margin of error.</li> <li>▪ Interpret margin of error; understand that a larger sample size generally leads to a smaller margin of error.</li> </ul>
<b>Evaluating statistical claims: observational studies and experiments</b>	<ul style="list-style-type: none"> <li>▪ With random samples, describe which population the results can be extended to.</li> <li>▪ Given a description of a study with or without random assignment, determine whether there is evidence for a causal relationship.</li> <li>▪ Understand why random assignment provides evidence for a causal relationship.</li> <li>▪ Understand why a result can be extended only to the population from which the sample was selected.</li> </ul>



**Table A-3.11: SAT Passport to Advanced Math Domain**

Content Dimension	Description
<p><b>Equivalent expressions</b></p>	<ul style="list-style-type: none"> <li>▪ Make strategic use of algebraic structure and the properties of operations to identify and create equivalent expressions, including:               <ul style="list-style-type: none"> <li>♦ rewriting simple rational expressions;</li> <li>♦ rewriting expressions with rational exponents and radicals; and</li> <li>♦ factoring polynomials.</li> </ul> </li> <li>▪ Fluently add, subtract, and multiply polynomials.</li> </ul>
<p><b>Nonlinear equations in one variable and systems of equations in two variables</b></p>	<ul style="list-style-type: none"> <li>▪ Make strategic use of algebraic structure, the properties of operations, and reasoning about equality to:               <ul style="list-style-type: none"> <li>♦ 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;</li> <li>♦ solve simple rational and radical equations in one variable;</li> <li>♦ 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);</li> <li>♦ solve polynomial equations in one variable that are written in factored form;</li> <li>♦ solve linear absolute value equations in one variable; and</li> <li>♦ solve systems of linear and nonlinear equations in two variables, including relating the solutions to the graphs of the equations in the system.</li> </ul> </li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ 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.</li> </ul>

*Table A-3.11 continued on next page*

Table A-3.11 continued from previous page

Content Dimension	Description
<p><b>Nonlinear functions</b></p>	<ul style="list-style-type: none"> <li>▪ Create and use quadratic or exponential functions to solve problems in a variety of contexts.</li> <li>▪ For a quadratic or exponential function:               <ul style="list-style-type: none"> <li>♦ identify or create an appropriate function to model a relationship between quantities;</li> <li>♦ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph;</li> <li>♦ 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;</li> <li>♦ determine the most suitable form of the expression representing the output of the function to display key features of the context, including:                   <ul style="list-style-type: none"> <li>- selecting the form of a quadratic that displays the initial value, the zeros, or the extreme value; and</li> <li>- selecting the form of an exponential that displays the initial value, the end-behavior (for exponential decay), or the doubling or halving time; and</li> </ul> </li> <li>♦ make connections between tabular, algebraic, and graphical representations of the function, by:                   <ul style="list-style-type: none"> <li>- given one representation, selecting another representation;</li> <li>- identifying features of one representation given the another representation, including maximum and minimum values of the function; and</li> <li>- determining how a graph is affected by a change to its equation, including a vertical shift or scaling of the graph.</li> </ul> </li> </ul> </li> <li>▪ For a factorable or factored polynomial or simple rational function:               <ul style="list-style-type: none"> <li>♦ use function notation to represent and interpret input/output pairs in terms of a context and points on the graph;</li> <li>♦ understand and use the fact that for the graph of <math>y = f(x)</math>, the solutions to <math>f(x) = 0</math> correspond to <math>x</math>-intercepts of the graph and <math>f(0)</math> corresponds to the <math>y</math>-intercept of the graph; interpret these key features in terms of a context; and</li> <li>♦ identify the graph given an algebraic representation of the function and an algebraic representation given the graph (with or without a context).</li> </ul> </li> </ul>

**Table A-3.12: SAT Additional Topics in Math Domain**

Content Dimension	Description
<p><b>Area and volume</b></p>	<ul style="list-style-type: none"> <li>▪ 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.               <ul style="list-style-type: none"> <li>♦ Apply knowledge that changing by a scale factor of <math>k</math> changes all lengths by a factor of <math>k</math>, changes all areas by a factor of <math>k^2</math>, and changes all volumes by a factor of <math>k^3</math>.</li> <li>♦ Demonstrate procedural fluency by selecting the correct area or volume formula and correctly calculating a specified value.</li> </ul> </li> </ul>
<p><b>Lines, angles, and triangles</b></p>	<ul style="list-style-type: none"> <li>▪ Use concepts and theorems relating to congruence and similarity of triangles to solve problems.</li> <li>▪ Determine which statements may be required to prove certain relationships or to satisfy a given theorem.</li> <li>▪ Apply knowledge that changing by a scale factor of <math>k</math> changes all lengths by a factor of <math>k</math>, but angle measures remain unchanged.</li> <li>▪ Know and directly apply relevant theorems such as:               <ul style="list-style-type: none"> <li>♦ the vertical angle theorem;</li> <li>♦ triangle similarity and congruence criteria;</li> <li>♦ triangle angle sum theorem; and</li> <li>♦ the relationship of angles formed when a transversal cuts parallel lines.</li> </ul> </li> </ul>
<p><b>Right triangles and trigonometry</b></p>	<ul style="list-style-type: none"> <li>▪ Solve problems in a variety of contexts using:               <ul style="list-style-type: none"> <li>♦ the Pythagorean theorem;</li> <li>♦ right triangle trigonometry; and</li> <li>♦ properties of special right triangles.</li> </ul> </li> <li>▪ Use similarity to calculate values of sine, cosine, and tangent.</li> <li>▪ Understand that when given one side length and one acute angle measure in a right triangle, the remaining values can be determined.</li> <li>▪ Solve problems using the relationship between sine and cosine of complementary angles.</li> <li>▪ Fluently apply properties of special right triangles to determine side lengths and calculate trigonometric ratios of 30, 45, and 60 degrees.</li> </ul>

*Table A-3.12 continued on next page*

Table A-3.12 continued from previous page

Content Dimension	Description
<p><b>Circles</b></p>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Solve problems using:               <ul style="list-style-type: none"> <li>♦ radian measure; and</li> <li>♦ trigonometric ratios in the unit circle.</li> </ul> </li> <li>▪ Create an equation to represent a circle in the <math>xy</math>-plane.</li> <li>▪ Describe how:               <ul style="list-style-type: none"> <li>♦ a change to the equation representing a circle in the <math>xy</math>-plane affects the graph of the circle; and</li> <li>♦ a change in the graph of the circle affects the equation of the circle.</li> </ul> </li> <li>▪ Understand that the ordered pairs that satisfy an equation of the form <math>(x - h)^2 + (y - k)^2 = r^2</math> form a circle when plotted in the <math>xy</math>-plane.</li> <li>▪ Convert between angle measures in degrees and radians.</li> <li>▪ Complete the square in an equation representing a circle to determine properties of the circle when it is graphed in the <math>xy</math>-plane and use the distance formula in problems related to circles.</li> </ul>
<p><b>Complex numbers</b></p>	<p>Apply knowledge and understanding of the complex number system to add, subtract, multiply, and divide with complex numbers and solve problems.</p>

**Table A-3.13: SAT Essay Content Specifications**

	Number	Percentage of Test
<b>Time Allotted</b>	50 minutes	
<b>Total Items</b>		
Prompts	1	100%
Passage based (each passage 650–750 words)	1	100%
<b>Passage Content</b>		
Arguments written for a broad audience	1	100%
<b>Text Complexity</b>		
High school reading level (grades 9–12)	1	100%
<b>Analytic Scoring</b>		
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	

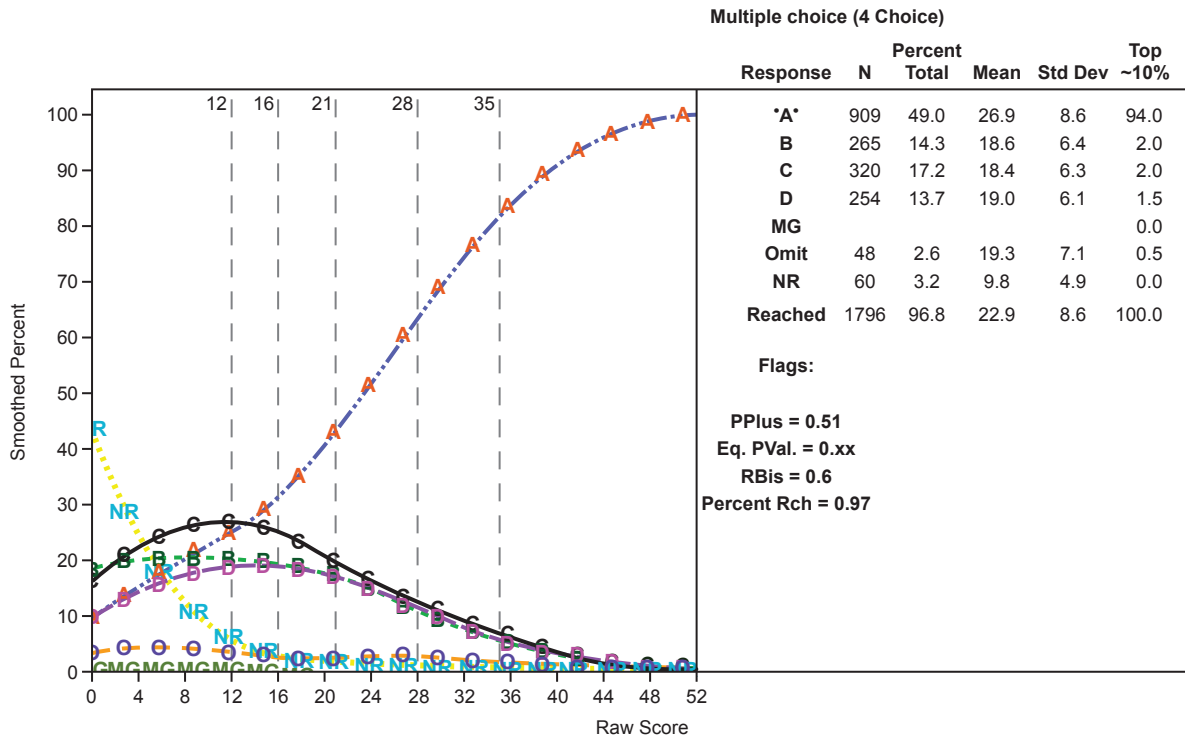
**Table A-3.14: SAT Essay Domain**

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

**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

## APPENDIX 4

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# 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."

APPENDIX 5

# Interpretation and Application of Results

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

<b>SECTION 1</b>	1	A	B	C	D	14	A	B	C	D	27	A	B	C	D	40	A	B	C	D
	2	A	B	C	D	15	A	B	C	D	28	A	B	C	D	41	A	B	C	D
	3	A	B	C	D	16	A	B	C	D	29	A	B	C	D	42	A	B	C	D
	4	A	B	C	D	17	A	B	C	D	30	A	B	C	D	43	A	B	C	D
	5	A	B	C	D	18	A	B	C	D	31	A	B	C	D	44	A	B	C	D
	6	A	B	C	D	19	A	B	C	D	32	A	B	C	D	45	A	B	C	D
	7	A	B	C	D	20	A	B	C	D	33	A	B	C	D	46	A	B	C	D
	8	A	B	C	D	21	A	B	C	D	34	A	B	C	D	47	A	B	C	D
	9	A	B	C	D	22	A	B	C	D	35	A	B	C	D	48	A	B	C	D
	10	A	B	C	D	23	A	B	C	D	36	A	B	C	D	49	A	B	C	D
	11	A	B	C	D	24	A	B	C	D	37	A	B	C	D	50	A	B	C	D
	12	A	B	C	D	25	A	B	C	D	38	A	B	C	D	51	A	B	C	D
	13	A	B	C	D	26	A	B	C	D	39	A	B	C	D	52	A	B	C	D

**Student-Produced Responses** ONLY ANSWERS THAT ARE GRIDDED WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES.

16

17

18

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No Calculator Allowed

Quality Assurance Mark



**Table A-5.1: SAT Essay Scoring Rubric**

Score	Reading	Analysis	Writing
4	<p><b>Advanced:</b> The response demonstrates thorough comprehension of the source text.</p> <p>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.</p> <p>The response is free of errors of fact or interpretation with regard to the text.</p> <p>The response makes skillful use of textual evidence (quotations, paraphrases, or both), demonstrating a complete understanding of the source text.</p>	<p><b>Advanced:</b> The response offers an insightful analysis of the source text and demonstrates a sophisticated understanding of the analytical task.</p> <p>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.</p> <p>The response contains relevant, sufficient, and strategically chosen support for claim(s) or point(s) made.</p> <p>The response focuses consistently on those features of the text that are the most relevant to addressing the task.</p>	<p><b>Advanced:</b> The response is cohesive and demonstrates a highly effective use and command of language.</p> <p>The response includes a precise central claim.</p> <p>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.</p> <p>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.</p> <p>The response shows a strong command of the conventions of standard written English and is free or virtually free of errors.</p>
3	<p><b>Proficient:</b> The response demonstrates effective comprehension of the source text.</p> <p>The response shows an understanding of the text’s central idea(s) and important details.</p> <p>The response is free of substantive errors of fact and interpretation with regard to the text.</p> <p>The response makes appropriate use of textual evidence (quotations, paraphrases, or both), demonstrating an understanding of the source text.</p>	<p><b>Proficient:</b> The response offers an effective analysis of the source text and demonstrates an understanding of the analytical task.</p> <p>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.</p> <p>The response contains relevant and sufficient support for claim(s) or point(s) made.</p> <p>The response focuses primarily on those features of the text that are the most relevant to addressing the task.</p>	<p><b>Proficient:</b> The response is mostly cohesive and demonstrates effective use and control of language.</p> <p>The response includes a central claim or implicit controlling idea.</p> <p>The response includes an effective introduction and conclusion. The response demonstrates a clear progression of ideas both within paragraphs and throughout the essay.</p> <p>The response has variety in sentence structures. The response demonstrates some precise word choice. The response maintains a formal style and objective tone.</p> <p>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.</p>

*Table A-5.1 continued on next page*

Table A-5.1 continued from previous page

Score	Reading	Analysis	Writing
2	<p><b>Partial:</b> The response demonstrates some comprehension of the source text.</p> <p>The response shows an understanding of the text’s central idea(s) but not of important details.</p> <p>The response may contain errors of fact and/or interpretation with regard to the text.</p> <p>The response makes limited and/or haphazard use of textual evidence (quotations, paraphrases, or both), demonstrating some understanding of the source text.</p>	<p><b>Partial:</b> The response offers limited analysis of the source text and demonstrates only partial understanding of the analytical task.</p> <p>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.</p> <p>One or more aspects of the analysis reflected in the response are unwarranted based on the text.</p> <p>The response contains little or no support for claim(s) or point(s) made.</p> <p>The response may lack a clear focus on those features of the text that are the most relevant to addressing the task.</p>	<p><b>Partial:</b> The response demonstrates little or no cohesion and limited skill in the use and control of language.</p> <p>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.</p> <p>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.</p> <p>The response has limited variety in sentence structures; sentence structures may be repetitive.</p> <p>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.</p> <p>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.</p>
1	<p><b>Inadequate:</b> The response demonstrates little or no comprehension of the source text.</p> <p>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).</p> <p>The response may contain numerous errors of fact and/or interpretation with regard to the text.</p> <p>The response makes little or no use of textual evidence (quotations, paraphrases, or both), demonstrating little or no understanding of the source text.</p>	<p><b>Inadequate:</b> 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.</p> <p>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.</p> <p>Numerous aspects of the response’s analysis are unwarranted based on the text.</p> <p>The response contains little or no support for claim(s) or point(s) made, or support is largely irrelevant.</p> <p>The response may not focus on features of the text that are relevant to addressing the task.</p> <p>The response offers no discernible analysis (e.g., is largely or exclusively summary).</p>	<p><b>Inadequate:</b> The response demonstrates little or no cohesion and inadequate skill in the use and control of language.</p> <p>The response may lack a clear central claim or controlling idea.</p> <p>The response lacks a recognizable introduction and conclusion. The response does not have a discernible progression of ideas.</p> <p>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.</p> <p>The response shows a weak control of the conventions of standard written English and may contain numerous errors that undermine the quality of writing.</p>

**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

**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

**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

**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

**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

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

<b>Range of Discrimination</b>	<b>R</b>	<b>WL</b>	<b>MTS</b>	<b>HSS</b>	<b>SCI</b>	<b>COE</b>	<b>WIC</b>	<b>EOI</b>	<b>SEC</b>	<b>HOA</b>	<b>PSD</b>	<b>PAM</b>
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



**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

**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

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

<b>Range of Discrimination</b>	<b>R</b>	<b>WL</b>	<b>MTS</b>	<b>HSS</b>	<b>SCI</b>	<b>COE</b>	<b>WIC</b>	<b>EOI</b>	<b>SEC</b>	<b>HOA</b>	<b>PSD</b>
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
<b>N</b>	<b>42</b>	<b>40</b>	<b>38</b>	<b>29</b>	<b>29</b>	<b>18</b>	<b>18</b>	<b>24</b>	<b>16</b>	<b>16</b>	<b>16</b>
<b>MEAN</b>	<b>0.50</b>	<b>0.47</b>	<b>0.53</b>	<b>0.52</b>	<b>0.50</b>	<b>0.53</b>	<b>0.60</b>	<b>0.54</b>	<b>0.48</b>	<b>0.56</b>	<b>0.59</b>
<b>S.D.</b>	<b>0.13</b>	<b>0.13</b>	<b>0.15</b>	<b>0.14</b>	<b>0.10</b>	<b>0.11</b>	<b>0.07</b>	<b>0.08</b>	<b>0.13</b>	<b>0.10</b>	<b>0.16</b>

**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

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

Table A-5.16 continued on next page

Table A-5.16 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					Two or More Races
	Number of Items	% of Items		Female	Black	Hispanic	Asian	AIAN	
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

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

Reading Category	Worst DIF		Focal Group					
	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 Category	Worst DIF		Focal Group					
	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

Table A-5.17 continued on next page

Table A-5.17 continued from previous page

Math Category	Worst DIF		Focal Group					
	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



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

Table A-5.18 continued on next page

Table A-5.18 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					
	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	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

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

Table A-5.19 continued on next page

Table A-5.19 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					
	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+	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

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

Table A-5.20 continued on next page

Table A-5.20 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					
	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+	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

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

Table A-5.21 continued on next page

Table A-5.21 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					
	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+	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



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

Table A-5.22 continued on next page

Table A-5.22 continued from previous page

Math Category	Worst DIF		Summary Statistics	Focal Group					
	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+	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

**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,

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

where  $x_{it}$  indicates the correct (= 1) and incorrect (= 0) scores on item  $i$  for the  $t^{\text{th}}$  test taker. For the  $p$ -values reported in this manual,  $N_{\text{reached},i}$  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,

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

where  $\Phi^{-1}(\varphi_i)$  represents the inverse of the standard normal cumulative distribution corresponding to  $\varphi_i$ th 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

$$l_2(\Delta_{i,1}) = \bar{\Delta}_2 + \frac{SD_{\Delta_2}}{SD_{\Delta_1}} [\Delta_{i,1} - \bar{\Delta}_1]$$

where the  $\bar{\Delta}$ s and  $SD_{\Delta}$ 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,

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

## $r$ -Biserial Correlation

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

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

where

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

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

$SD_y$  is the standard deviation of the criterion score,

$\varphi_i$  is the proportion of students answering item  $i$  correctly (i.e.,  $p$ -value), and

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

## 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

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

where  $\alpha_{MH}$  is an estimate of the odds ratio. The odds ratio is calculated as

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

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  $m$ ,

$N_{fm}$  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.

## 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 %
<b>Females</b>	52	53	53
<b>Juniors</b>	67	33	33
<b>Ethnicity</b>			
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
<b>Region</b>			
MRO	14	8	6
MSRO	3	26	25
NERO	0	9	8
SRO	25	22	21
SWRO	36	12	11
WRO	23	23	22

Table A-6.1 continued on next page

Table A-6.1 continued from previous page

Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
<b>First Language</b>			
English only	71	69	69
English and another language	16	16	16
Another language	13	12	12
<b>Best Language</b>			
English only	71	75	75
English and another language	22	18	19
Another language	3	4	4
<b>Desired College Degree</b>			
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
<b>Interested in Attending Type of College</b>			
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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Table A-6.1 continued from previous page

Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
<b>Mother's Highest Ed</b>			
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
<b>Father's Highest Ed</b>			
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

Table A-6.1 continued on next page

Table A-6.1 continued from previous page

Subgroup	Unweighted Scaling Sample %	Weighted Scaling Sample %	2011–2014 SAT Cohort %
<b>Average High School GPA</b>			
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
<b>High School Math: AP/Honors</b>			
AP/Honors	33	30	30
<b>High School English</b>			
High School English: AP/Honors	39	34	34



**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)

**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	

**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

*Table A-6.3.2 continued on next page*

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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		

Table A-6.3.2 continued on next page

Table A-6.3.2 continued from previous page

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				

**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

*Table A-6.3.3 continued on next page*

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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

**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



**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						

**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)			

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

Table A-6.4.2 continued on next page

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

Score	R		WL		HSS		SCI	
	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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Score	R		WL		HSS		SCI	
	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)

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

Score	COE		WIC		SEC		EOI		HOA		PSD		PAM		
	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-(.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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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+ (.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)

Table A-6.4.5 continued on next page



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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)

**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)**

Score	ERW		MSS		MTS		ERW		MSS		MTS			
	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group		
160	1-(.01)	1-(.01)	1-(.01)	1-(.01)	8	1-(.01)	1-(.01)	350	7(.49)	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)	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)	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)	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)	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(.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(.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(.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(.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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	69(.88)	62(.04)	26.5	69(.88)	62(.04)

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	ERW			MSS			MTS			ERW			MSS			MTS		
	Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	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)	93 (.02)	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)	93 (.02)	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)	94 (.02)	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)	94 (.02)	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)	95 (.02)	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)	96 (.01)	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)	97 (.01)	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)	97 (.01)	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)	98 (.01)	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)	99 (.01)	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)	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)**

Score	R		WL		HSS		SCI	
	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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Score	R		WL		HSS		SCI	
	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)

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

Score	COE		WIC		SEC		EOI		HOA		PSD		PAM	
	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-(.06)	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-(.13)	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(.18)	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)	5(.37)	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)	13(.60)	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)	22(.77)	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)	32(.85)	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)	47(.88)	46(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)	62(.89)	64(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)	73(.81)	77(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)	82(.71)	86(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)	87(.63)	93(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)	91(.53)	96(03)	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)	95(.42)	99(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+ (.20)	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)



**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)**

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

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	ERW			MSS			MTS			ERW			MSS			MTS		
	Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	National	User Group	Score	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)	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)	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)	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)	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)	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)	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(.10)	36	99(.10)	99(.01)	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)	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)	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)	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)	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)**

Score	R		WL		HSS		SCI	
	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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Score	R		WL		HSS		SCI	
	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)

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

Score	COE		WIC		SEC		EOI		HOA		PSD		PAM	
	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-(.04)	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)

*Table A-6.4.13 continued on next page*

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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)

**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)**

Score	ERW		MSS		MTS		ERW		MSS		MTS			
	National	User Group	National	User Group	National	User Group	Score	National	User Group	Score	National	User Group		
120	1-(.01)	1-(.01)	1-(.01)	1-(.01)	6	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	420	42(.34)	46(.07)	39(.34)	47(.07)	21	39(.34)	47(.07)
240	1-(.01)	1-(.01)	1-(.05)	1-(.01)	12	1-(.05)	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)	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)	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)	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)	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)	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)	490	69(.32)	71(.06)	74(.31)	77(.06)	24.5	74(.31)	77(.06)

Table A-6.4.14 continued on next page



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

Score	R		WL		HSS		SCI	
	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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Score	R		WL		HSS		SCI	
	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)

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

Score	COE		WIC		SEC		EOI		HOA		PSD	
	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)			

**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)**

Score	ERW		MSS		MTS		ERW		MSS		MTS				
	National	User Group	National	User Group	National	User Group	National	User Group	National	User Group	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)

Table A-6.4.18 continued on next page

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

Score	R		WL		HSS		SCI	
	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)

Table A-6.4.19 continued on next page



Table A-6.4.19 continued from previous page

Score	R		WL		HSS		SCI	
	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)

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

Score	COE		WIC		SEC		EOI		HOA		PSD	
	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**

<b>Statistics</b>	<b>R</b>	<b>WL</b>	<b>MTS</b>	<b>HSS</b>	<b>SCI</b>	<b>COE</b>	<b>WIC</b>	<b>EOI</b>	<b>SEC</b>	<b>HOA</b>	<b>PSD</b>	<b>PAM</b>
<b>SAT Form 1</b>												
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
<b>SAT Form 2</b>												
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
<b>SAT Form 3</b>												
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
<b>PSAT/NMSQT and PSAT 10 Form 1</b>												
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
<b>PSAT/NMSQT and PSAT 10 Form 2</b>												
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

*Table A-6.5 continued on next page*

Table A-6.5 continued from previous page

Statistics	R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM
<b>PSAT 8/9 Form 1</b>												
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	
Str_Alpha	0.88	0.86	0.88	0.83	0.84	0.74	0.81	0.82	0.63	0.73	0.74	N/A
Str_SEM	2.72	2.79	2.59	2.27	2.38	1.83	1.76	2.14	1.79	1.70	1.67	
<b>PSAT 8/9 Form 2</b>												
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	
Str_Alpha	0.86	0.86	0.86	0.81	0.76	0.74	0.74	0.78	0.73	0.74	0.72	N/A
Str_SEM	2.78	2.75	2.55	2.27	2.42	1.86	1.82	2.16	1.69	1.60	1.67	

**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
<b>SAT Form 1</b>															
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
<b>SAT Form 2</b>															
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
<b>SAT Form 3</b>															
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
<b>PSAT/NMSQT and PSAT 10 Form 1</b>															
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
<b>PSAT/NMSQT and PSAT 10 Form 2</b>															
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
<b>PSAT 8/9 Form 1</b>															
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	N/A	24.47	32.61	40.77
<b>PSAT 8/9 Form 2</b>															
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	N/A	24.26	31.44	39.71

**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	
<b>Race/ Ethnicity</b>	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	

*Table A-6.7.1 continued on next page*

Table A-6.7.1 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	
<b>Gender</b>	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
<b>Grade Level</b>	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

**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	
<b>Race/ Ethnicity</b>	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	

Table A-6.7.2 continued on next page



Table A-6.7.2 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	
<b>Gender</b>	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
<b>Grade Level</b>	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

**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	
<b>Race/ Ethnicity</b>	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	

Table A-6.7.3 continued on next page

Table A-6.7.3 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	
<b>Gender</b>	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
<b>Grade Level</b>	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

**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	
<b>Race/ Ethnicity</b>	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

Table A-6.7.4 continued on next page

Table A-6.7.4 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	
<b>Gender</b>	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
<b>Grade Level</b>	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

**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	
<b>Race/ Ethnicity</b>	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	

Table A-6.7.5 continued on next page

Table A-6.7.5 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	PAM	
<b>Gender</b>	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
<b>Grade Level</b>	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

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

		<b>R</b>	<b>WL</b>	<b>MTS</b>	<b>HSS</b>	<b>SCI</b>	<b>COE</b>	<b>WIC</b>	<b>EOI</b>	<b>SEC</b>	<b>HOA</b>	<b>PSD</b>	
<b>Race/ Ethnicity</b>	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	

*Table A-6.7.6 continued on next page*



Table A-6.7.6 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	
<b>Gender</b>	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
<b>Grade Level</b>	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

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

		<b>R</b>	<b>WL</b>	<b>MTS</b>	<b>HSS</b>	<b>SCI</b>	<b>COE</b>	<b>WIC</b>	<b>EOI</b>	<b>SEC</b>	<b>HOA</b>	<b>PSD</b>	
<b>Race/ Ethnicity</b>	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	

*Table A-6.7.7 continued on next page*

Table A-6.7.7 continued from previous page

		R	WL	MTS	HSS	SCI	COE	WIC	EOI	SEC	HOA	PSD	
<b>Gender</b>	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
<b>Grade Level</b>	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

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
Whites	Reliability	0.87	0.86	0.87	0.80	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	1.52	22.75	30.84	38.32
Blacks	Reliability	0.87	0.85	0.88	0.79	0.81	0.63	0.72	0.76	0.80	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
Hispanics	Reliability	0.90	0.89	0.91	0.84	0.86	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	1.57	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	0.73	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	1.42	22.86	29.73	37.51
Two or more races	Reliability	0.88	0.88	0.89	0.80	0.81	0.75	0.82	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	1.41	1.66	1.52	23.66	32.73	40.39
Males	Reliability	0.89	0.89	0.90	0.84	0.85	0.75	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	1.51	23.48	31.33	39.16
Females	Reliability	0.88	0.87	0.89	0.82	0.82	0.74	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	1.56	23.16	31.19	38.85
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	0.95
	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
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	0.94
	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

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	
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
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
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
Grade Level	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

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
Whites	Reliability	0.87	0.84	0.91	0.81	0.82	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	1.33	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	0.70	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	1.50	25.74	28.84	38.66
Hispanics	Reliability	0.87	0.83	0.90	0.80	0.80	0.66	0.67	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	1.46	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	0.77	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	1.37	24.28	26.85	36.20
Hawaiians	Reliability	0.86	0.82	0.90	0.80	0.81	0.66	0.65	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	1.48	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	0.66	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	1.50	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	0.72	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	1.43	24.29	27.29	36.53
Males	Reliability	0.89	0.86	0.92	0.83	0.85	0.70	0.73	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	1.16	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	0.78	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	1.47	24.70	28.04	37.37
11th	Reliability	0.88	0.85	0.92	0.82	0.84	0.69	0.71	0.74	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	1.45	24.72	27.84	37.23
Grade Level	Reliability	0.90	0.87	0.92	0.84	0.84	0.72	0.74	0.77	0.80	0.78	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	1.48	24.94	28.43	37.82

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	
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
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
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
Grade Level 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

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
Whites	Reliability	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	1.39	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	0.39	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	1.65	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	0.5	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	1.6	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	0.94	0.94	0.97
	RMS(CSEM)	1.72	1.81	1.32	1.93	1.9	1.3	1.32	1.13	1.34	1.15	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	0.61	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	1.53	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	0.47	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	1.62	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	0.65	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	1.54	25.6	30.04	39.47
Males	Reliability	0.87	0.86	0.9	0.83	0.85	0.72	0.78	0.81	0.68	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	1.52	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	0.65	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	1.2	1.53	25.73	30.16	39.64
10th	Reliability	0.86	0.87	0.89	0.82	0.84	0.71	0.78	0.81	0.69	0.76	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	1.52	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	0.8	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	1.41	26.13	29.37	39.31



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
Whites	Reliability	0.86	0.83	0.85	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	1.34	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	0.66	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	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	0.69	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	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	0.75	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	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	0.67	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	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	0.67	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	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	0.74	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	1.34	1.48	1.20	1.87	1.36	1.36	24.35	31.85	40.09
Males	Reliability	0.87	0.86	0.86	0.83	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	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	0.74	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	1.37	1.48	1.21	1.90	1.37	1.34	24.58	32.72	40.92
8th	Reliability	0.86	0.84	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	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	0.74	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	1.37	1.48	1.21	1.88	1.37	1.35	24.58	31.92	40.29

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
Whites	Reliability	0.84	0.85	0.84	0.78	0.75	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	1.43	24.24	30.55	39
Blacks	Reliability	0.82	0.8	0.7	0.73	0.63	0.65	0.71	0.69	0.55	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	1.44	23.57	36.33	43.3
Hispanics	Reliability	0.84	0.83	0.77	0.76	0.7	0.69	0.73	0.74	0.63	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	1.42	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	0.93	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	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	0.54	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	1.4	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	0.72	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	1.4	24.15	31.16	39.42
Males	Reliability	0.85	0.86	0.86	0.81	0.77	0.74	0.76	0.78	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	1.43	24.14	31.54	39.72
Females	Reliability	0.84	0.85	0.84	0.78	0.74	0.73	0.74	0.77	0.71	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	1.43	24.37	31.41	39.75
8th	Reliability	0.84	0.85	0.85	0.79	0.75	0.72	0.74	0.77	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	24.3	31.1	39.47
9th	Reliability	0.85	0.86	0.85	0.8	0.76	0.74	0.75	0.78	0.73	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	24.24	31.5	39.75

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.

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.

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	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.

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.

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.

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.



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.

**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.

**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.

**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	Std. Diff.	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.

**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**

Score	White			Black			Hispanic			Asian			Hawaiian			AIAN			Two or More Races		
	Mean	SD	Std. Diff.	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

Score	White		Hawaiian			AIAN			Two or More Races		
	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.

**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**

PSAT 8/9 Form 2 Score	White			Black			Hispanic			Asian			AIAN			Two or More Races		
	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	24.74	6.98	-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	-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	-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	-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	-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	-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	-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	-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	-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	-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	-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		Std. Diff.
	Mean	SD	Mean	SD	
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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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		Std. Diff.
	Mean	SD	Mean	SD	
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.

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.

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.

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.



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.

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	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.

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	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.

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**

SAT Form 1 Score	White		Black			Hispanic			Asian		
	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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Table A-6.13.1 continued from previous page

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.

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

SAT Form 2 Score	White		Black			Hispanic			Asian		
	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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Table A-6.13.2 continued from previous page

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.



**Table A-6.13.3: Scale 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	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.

**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	Std. Diff.	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.

**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	Std. Diff.	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

*Table A-6.13.6 continued on next page*

Table A-6.13.6 continued from next page

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.

**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

*Table A-6.13.7 continued on next page*

Table A-6.13.7 continued from previous page

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.



**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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		Std. Diff.
	Mean	SD	Mean	SD	
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.

**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

*Table A-6.15.1 continued on next page*



Table A-6.15.1 continued from previous page

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			

**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

*Table A-6.15.2 continued on next page*

Table A-6.15.2 continued from previous page

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.

**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*

Table A-6.15.3 continued from previous page

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			

**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*

Table A-6.15.4 continued from previous page

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			

**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

*Table A-6.15.5 continued on next page*



Table A-6.15.5 continued from previous page

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.

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

<b>Item Number</b>	<b>Reading</b>	<b>Writing and Language</b>	<b>Math – No Calculator</b>	<b>Math – Calculator</b>
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*

Table A-6.15.6 continued from previous page

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.

**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*

Table A-6.15.7 continued from previous page

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.

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

<b>Test</b>	<b>Category</b>	<b>Results</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

<b>Test</b>	<b>Category</b>	<b>Results</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

<b>Test</b>	<b>Category</b>	<b>Results</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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



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

<b>Test</b>	<b>Category</b>	<b>Results</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

<b>Test</b>	<b>Category</b>	<b>Results</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

Test	Category	Results
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

Test	Category	Results
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

**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
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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.

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

Category	Gender		Grade		
	Male	Female	Grade 11	Grade 12	
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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.

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

Category	Gender		Grade		
	Male	Female	Grade 11	Grade 12	
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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



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.

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

Section	Category	Gender		Grade Level	
		Male	Female	Grade 11	Grade 12
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

	<b>Category</b>	<b>White</b>	<b>Black</b>	<b>Hispanic</b>	<b>Asian</b>	<b>Hawaiian</b>	<b>AIAN</b>	<b>Two or More Races</b>
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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.

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

Category	Gender		Grade Level		
	Male	Female	Grade 10	Grade 11	
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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.

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

Form	Category	Gender		Grade Level	
		Male	Female	Grade 10	Grade 11
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

**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
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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.

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

Form	Category	Gender		Grade Level	
		Male	Female	Grade 8	Grade 9
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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



**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
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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.

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

Form	Category	Gender		Grade Level	
		Male	Female	Grade 8	Grade 9
<b>Reading</b>	# 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
<b>Writing and Language</b>	# 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
<b>Math – No Calculator</b>	# 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
<b>Math – Calculator</b>	# 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

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

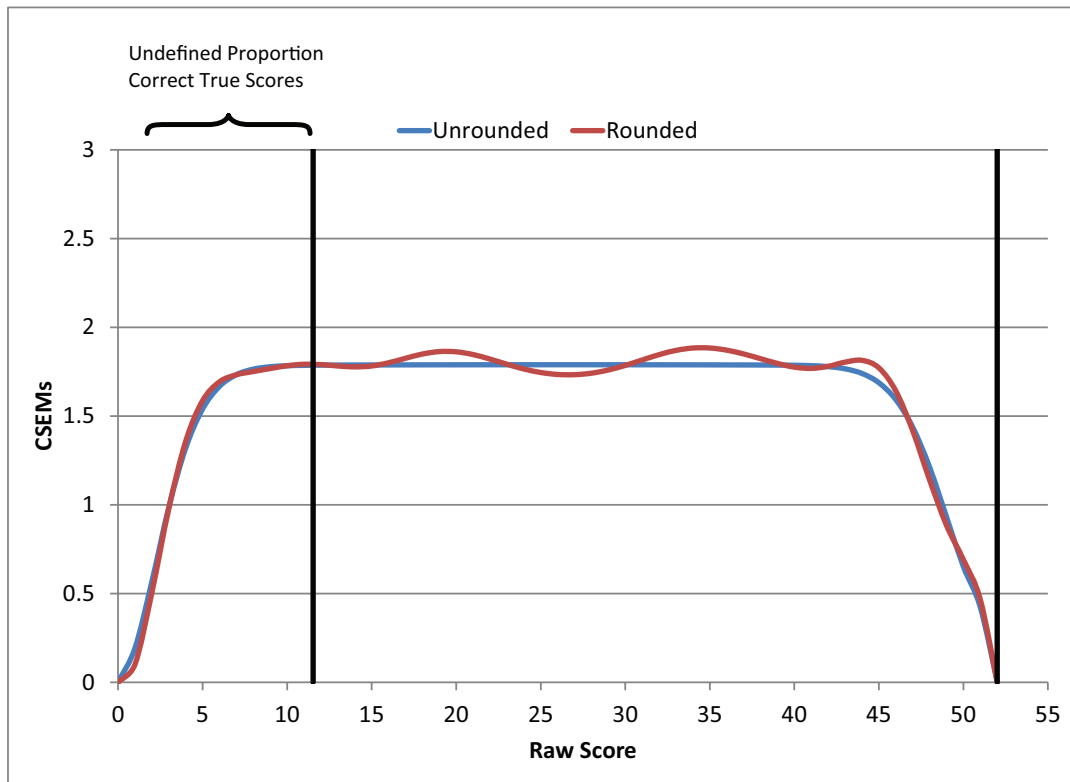


Figure A-6.2: CSEMs of the scale scores for SAT Writing

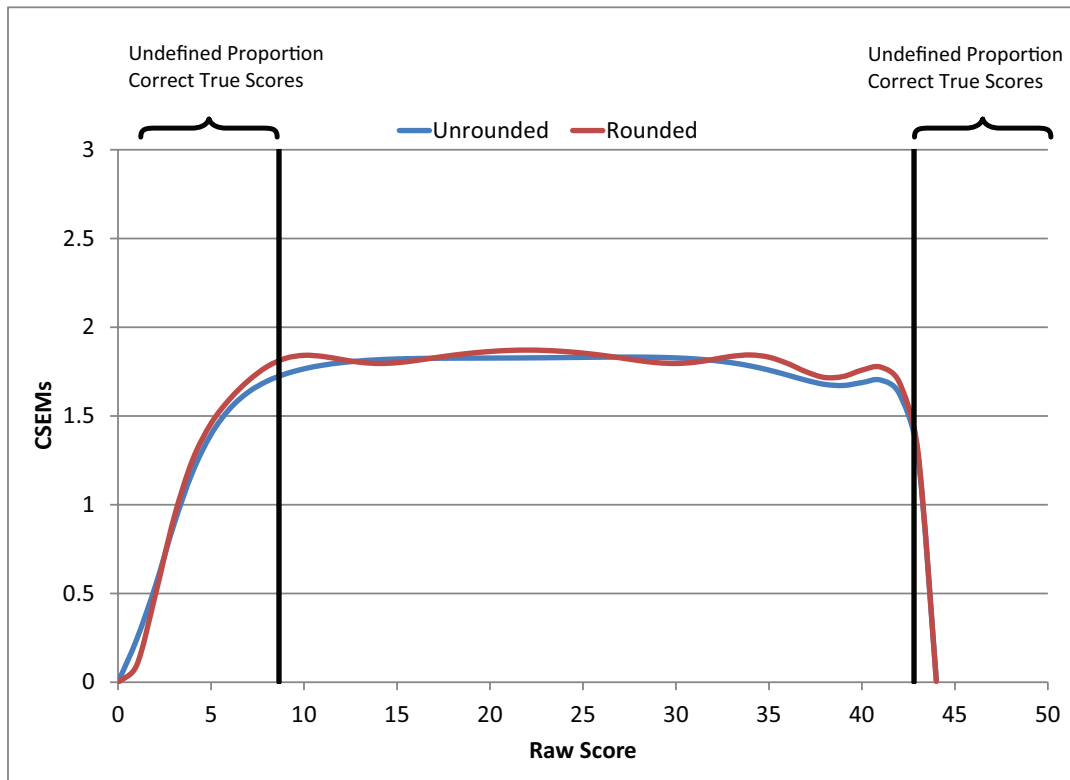


Figure A-6.3: CSEMs of the scale scores for SAT Math

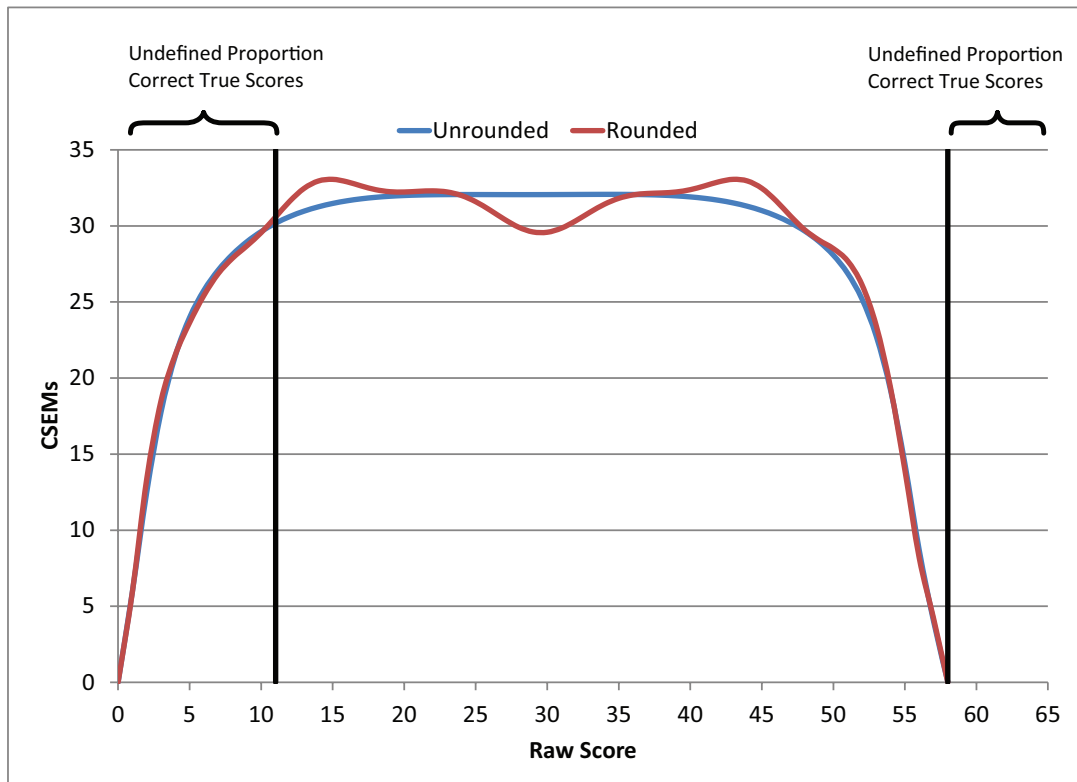


Figure A-6.4: CSEMs of the scale scores for SAT Analysis in Science

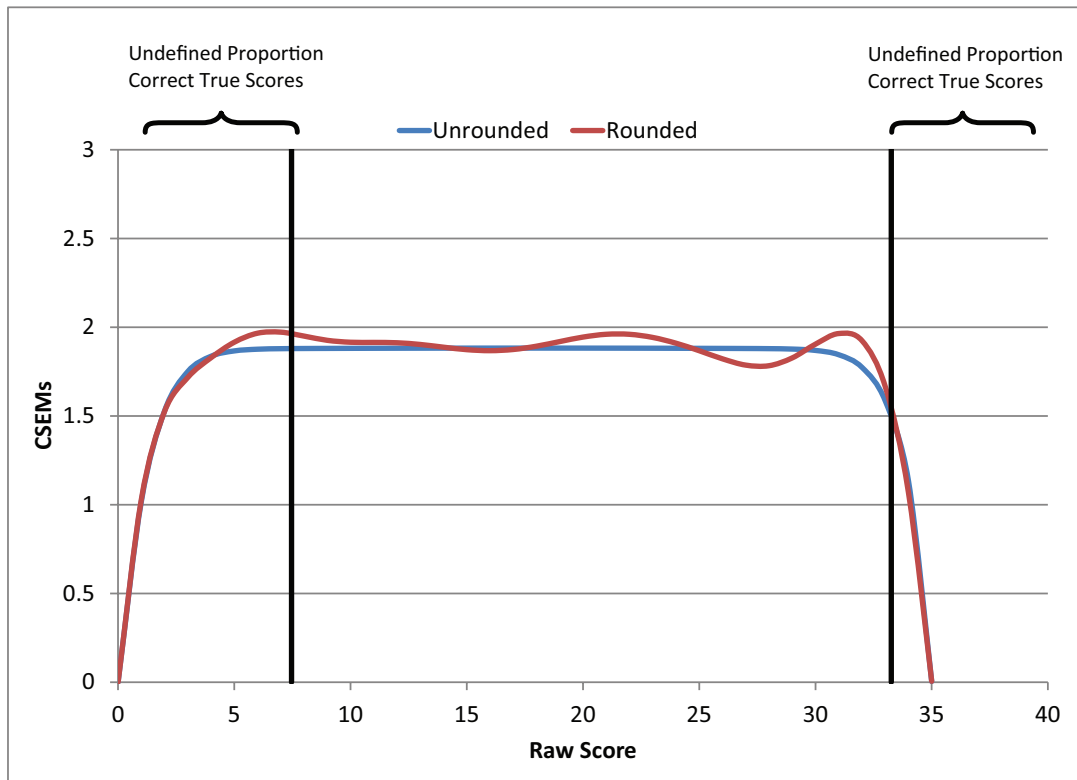


Figure A-6.5: CSEMs of the scale scores for SAT Analysis in History/Social Studies

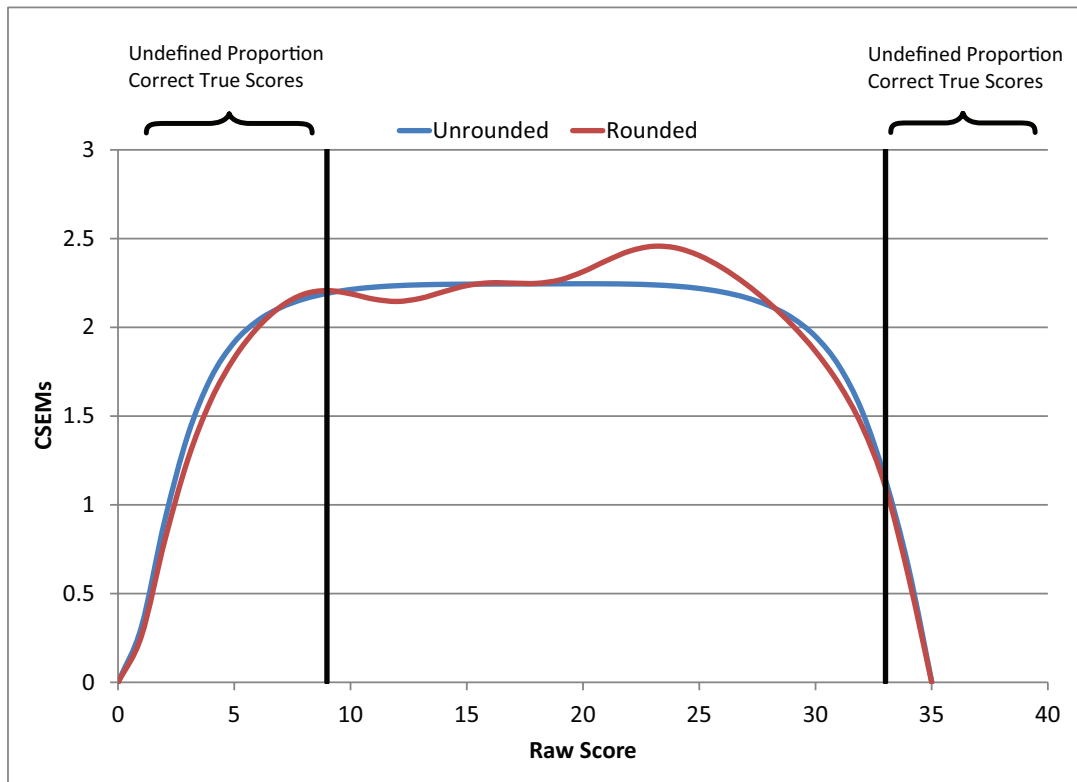


Figure A-6.6: CSEMs of the unrounded scale scores for SAT subscores

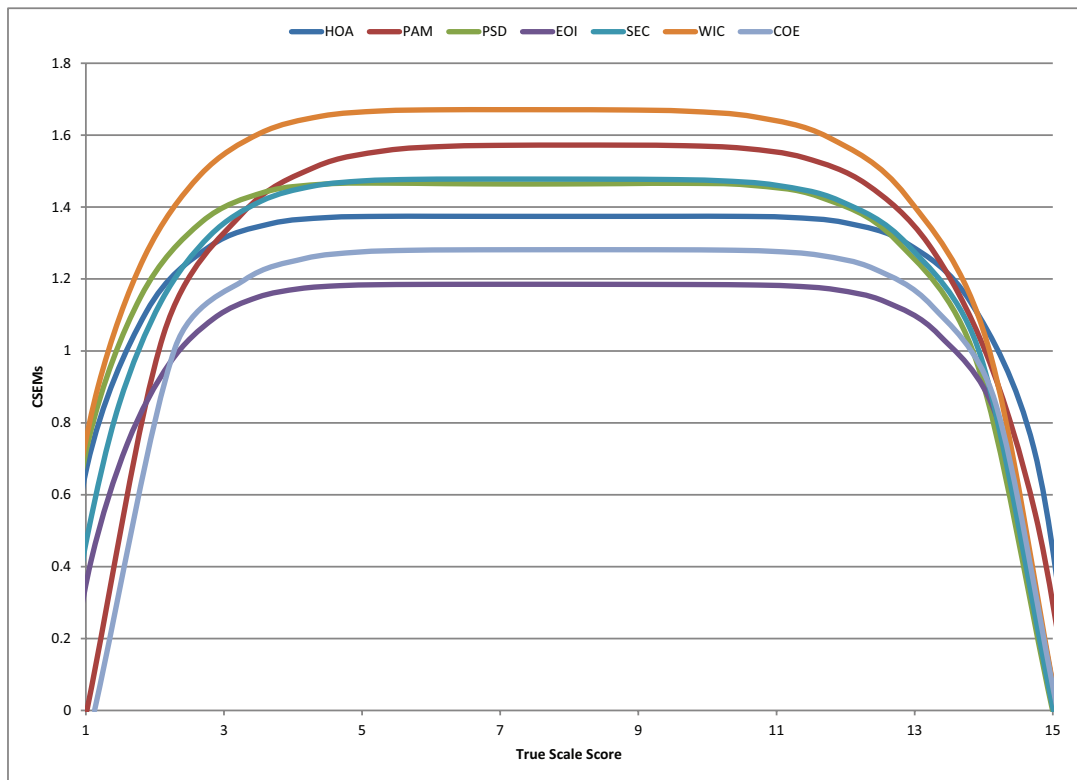
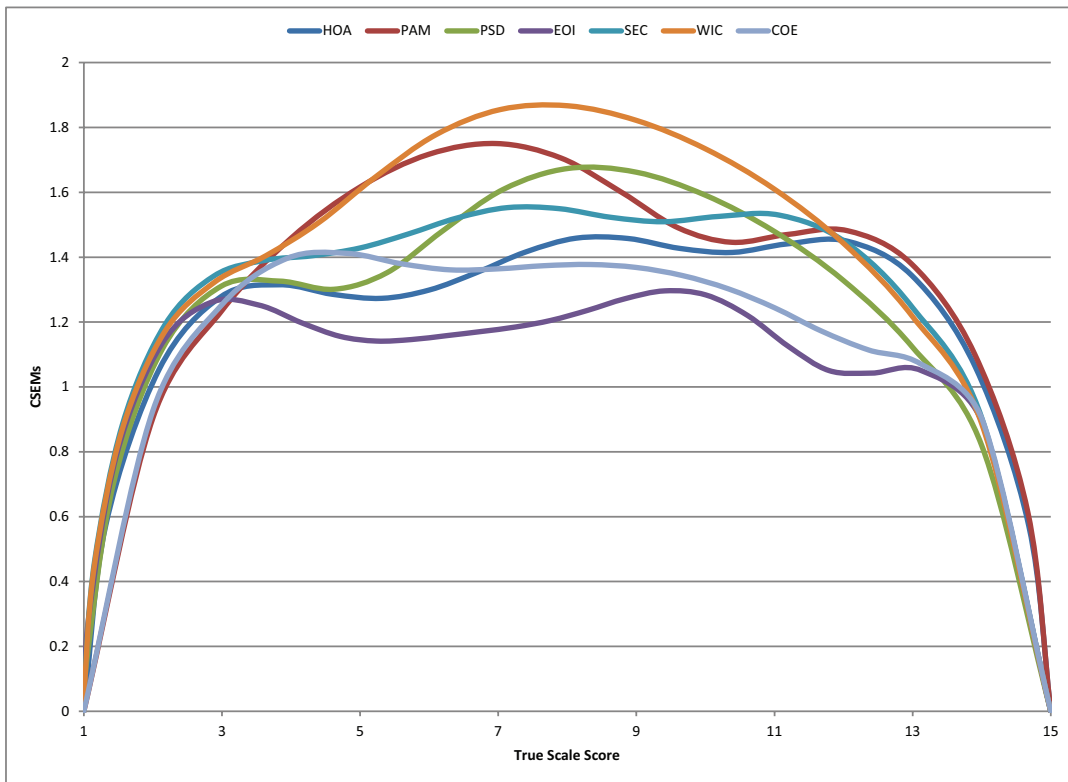
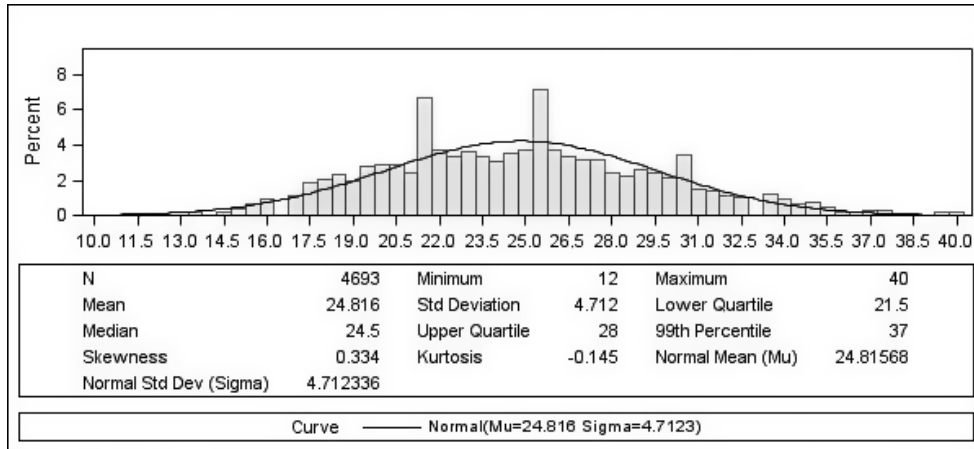


Figure A-6.7: CSEMs of the rounded scale scores for SAT subscores

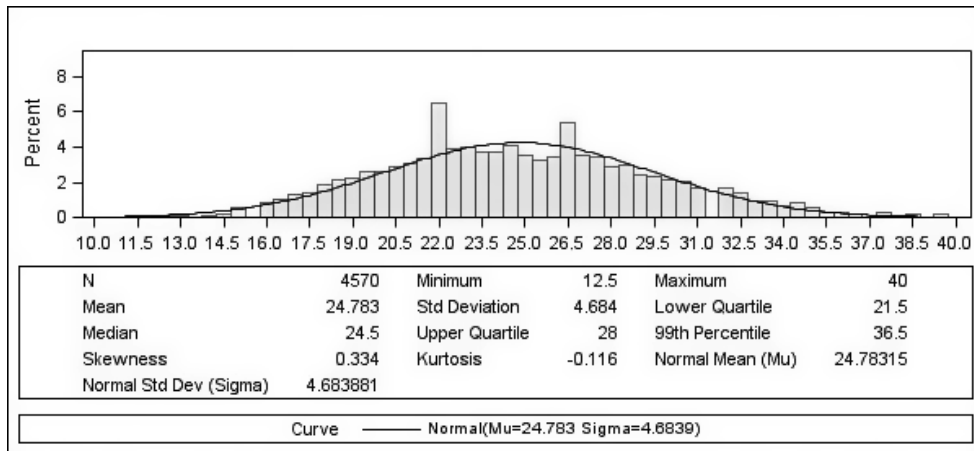


**Figure A-6.8: Scale score statistics and distributions for the base form and new form**

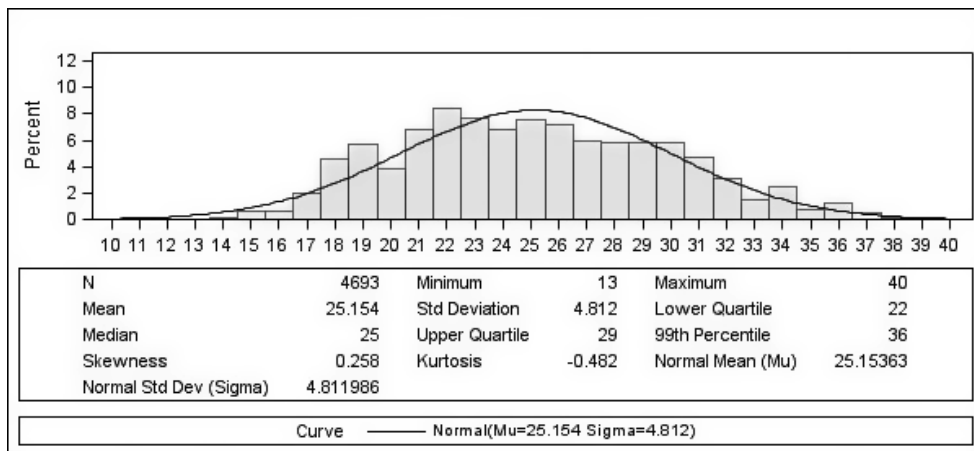
**Figure A-6.8.1: Base form Math**



**Figure A-6.8.2: New form Math**



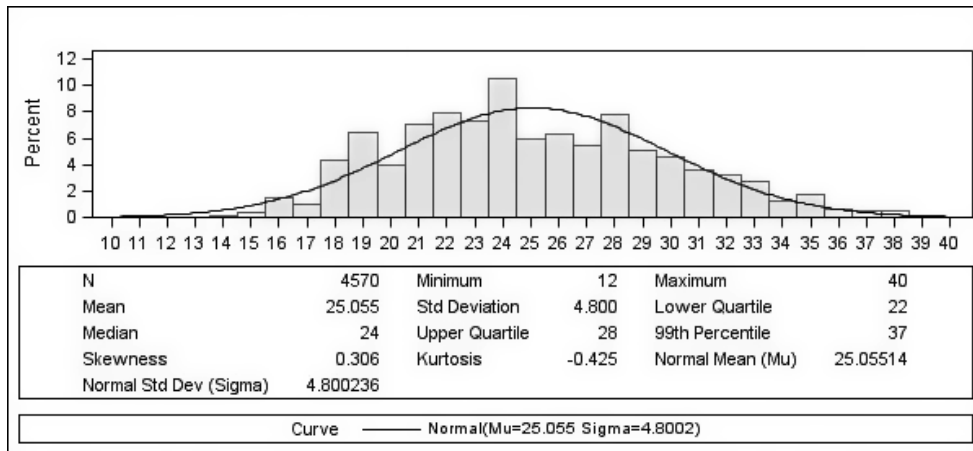
**Figure A-6.8.3: Base form Reading**



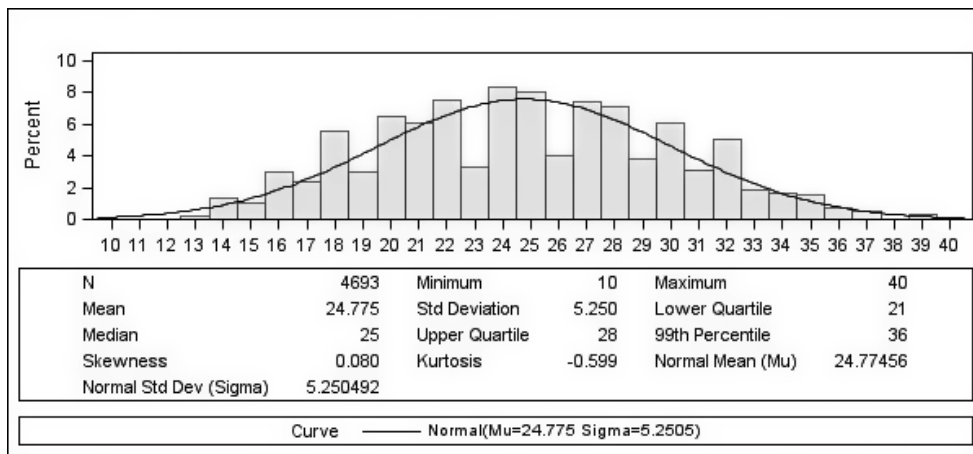
*Figure A-6.8 continued on next page*

Figure A-6.8 continued from previous page

**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**

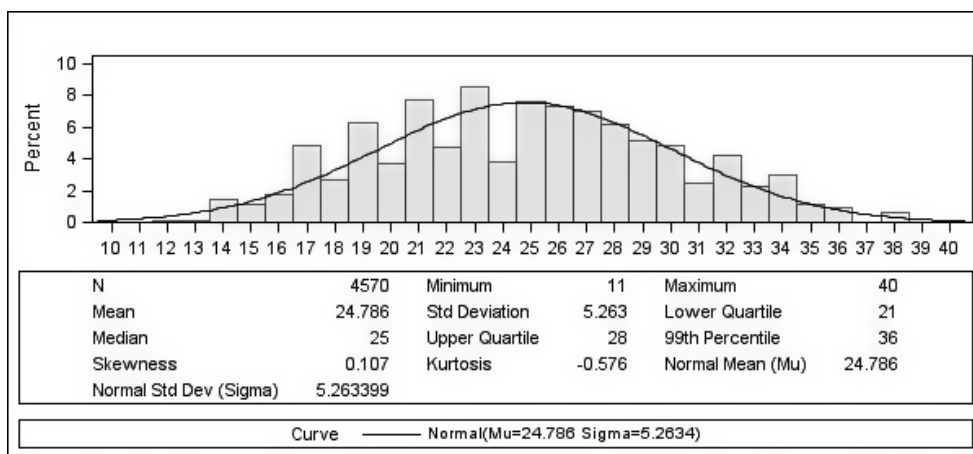
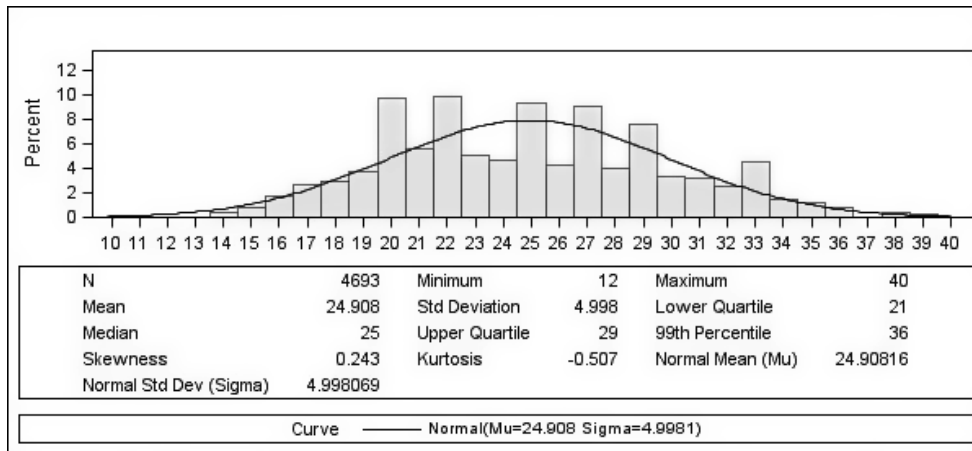


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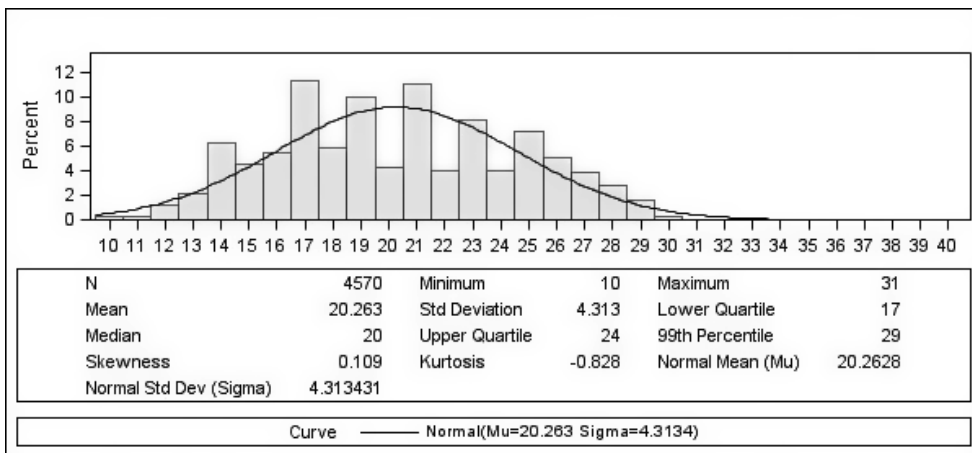


Figure A-6.8 continued from previous page

**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**

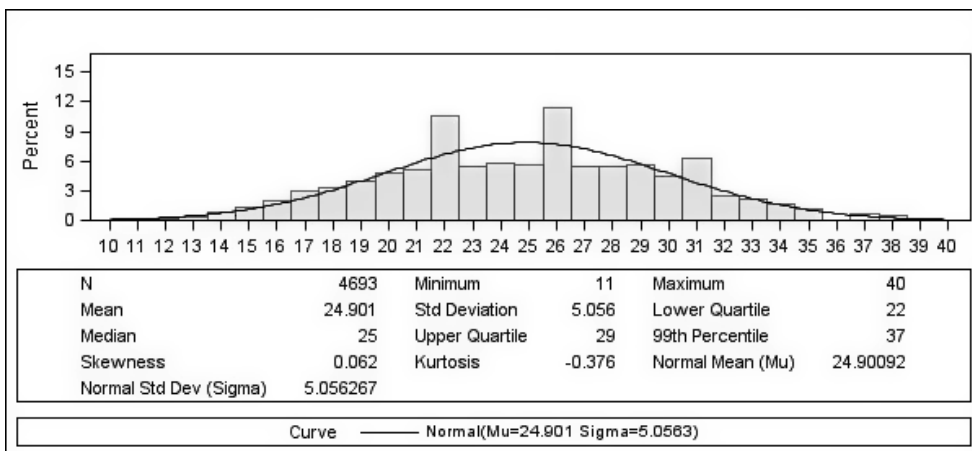
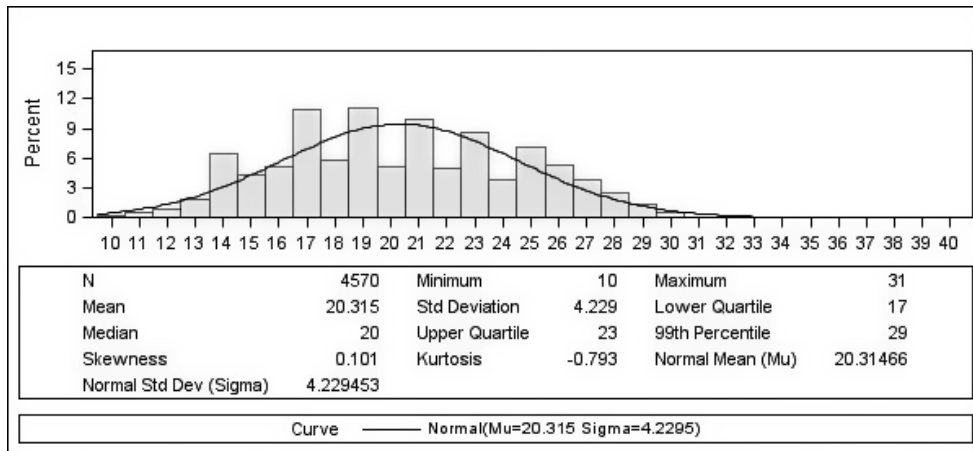


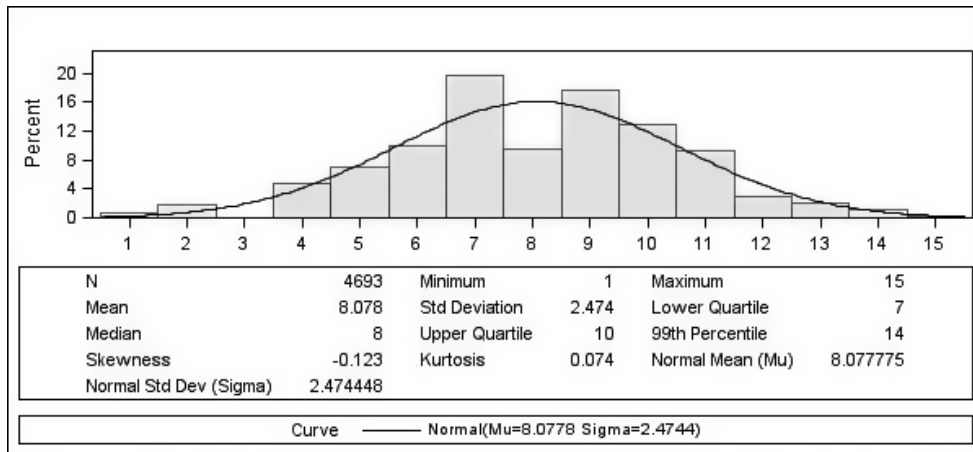
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Figure A-6.8 continued from previous page

**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**

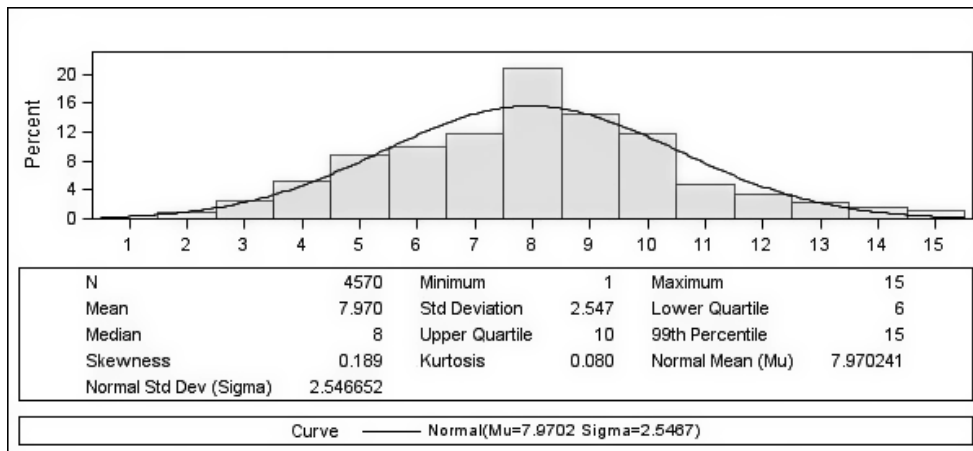
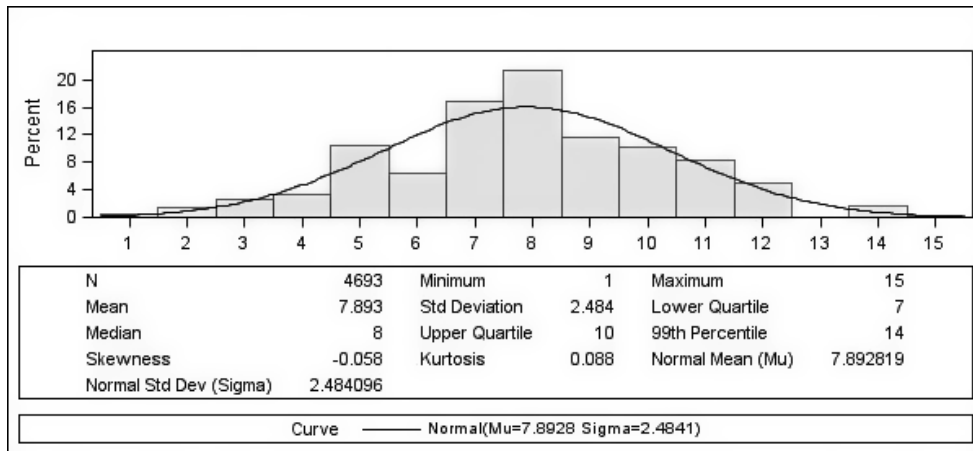
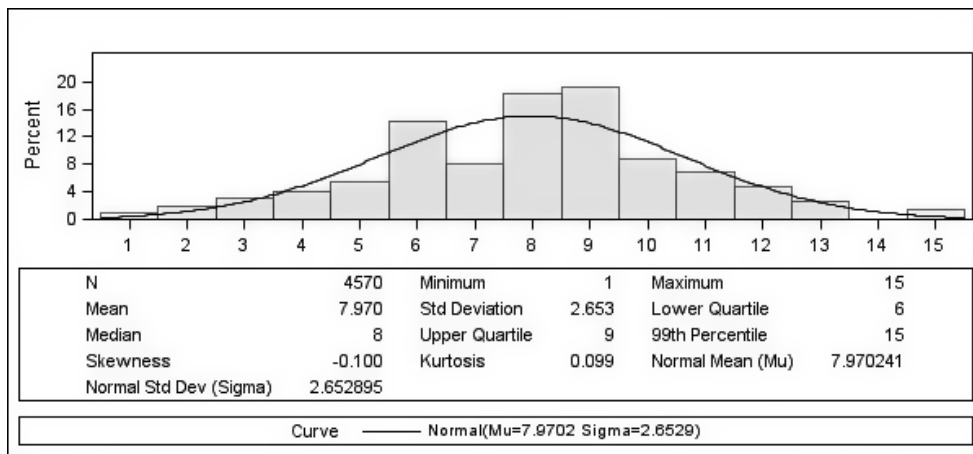


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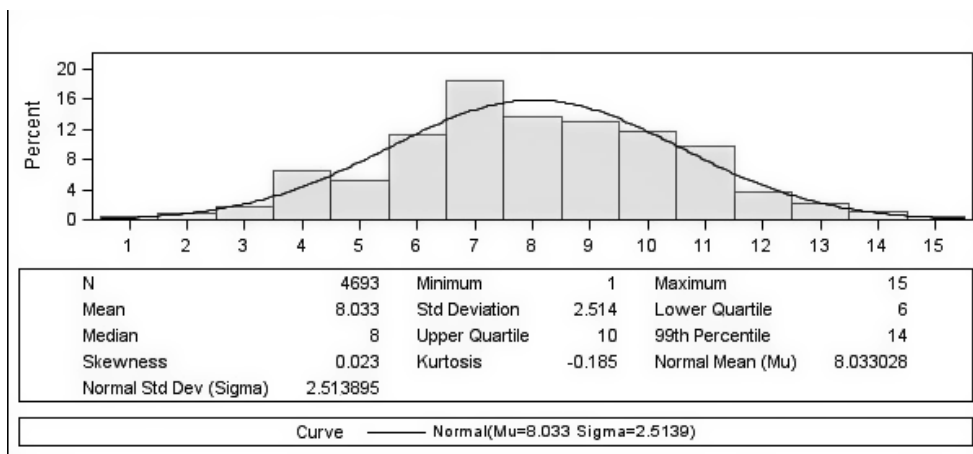
**Figure A-6.8.13: Base form Relevant Words in Context**



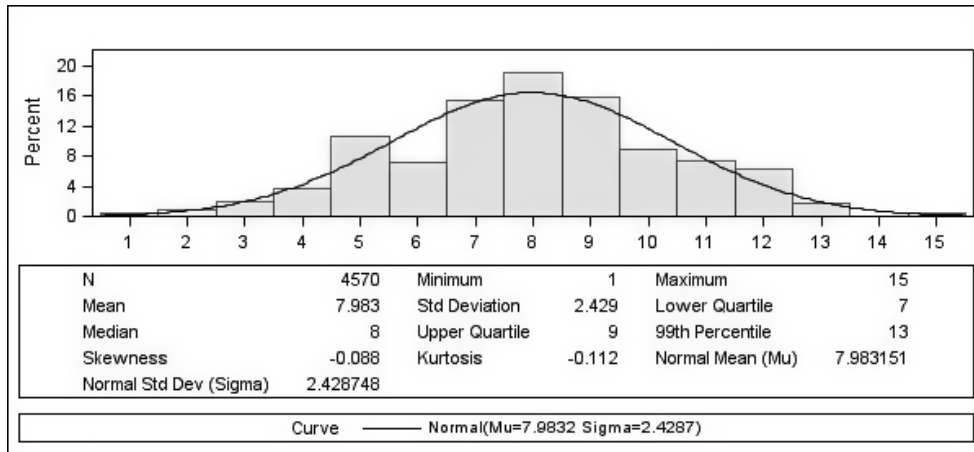
**Figure A-6.8.14: New form Relevant Words in Context**



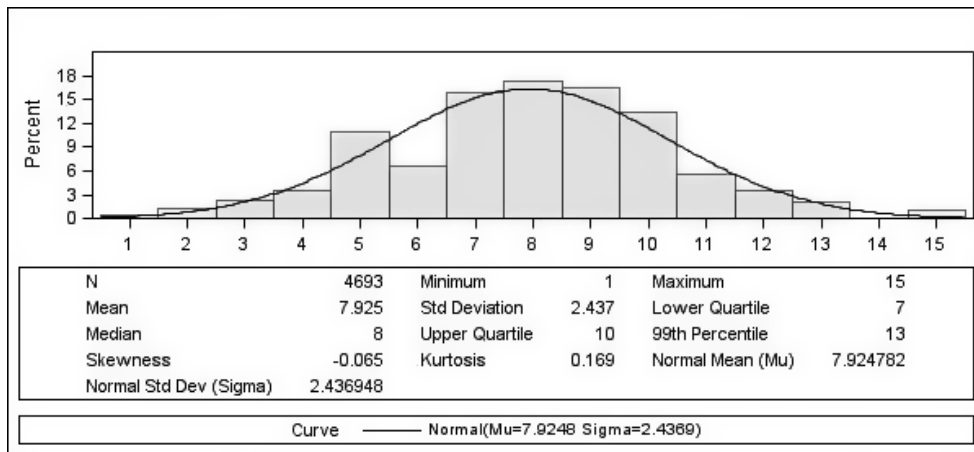
**Figure A-6.8.15: Base form Expression of Ideas**



**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**

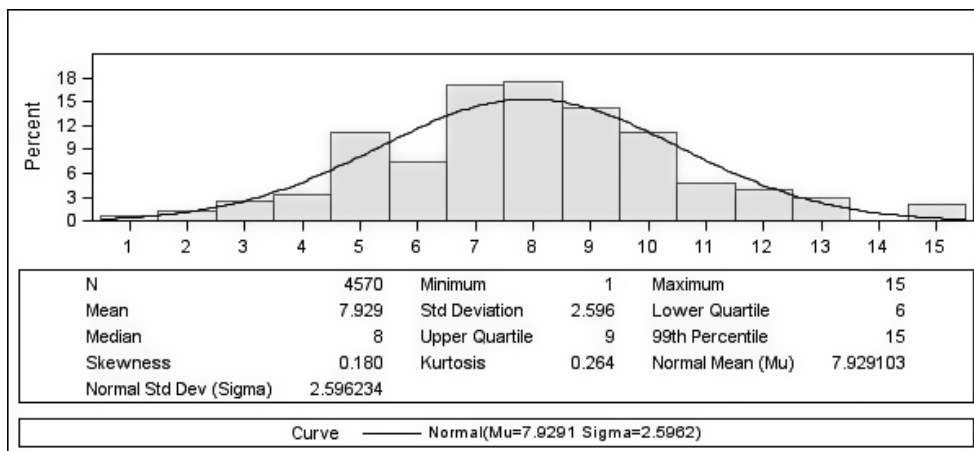
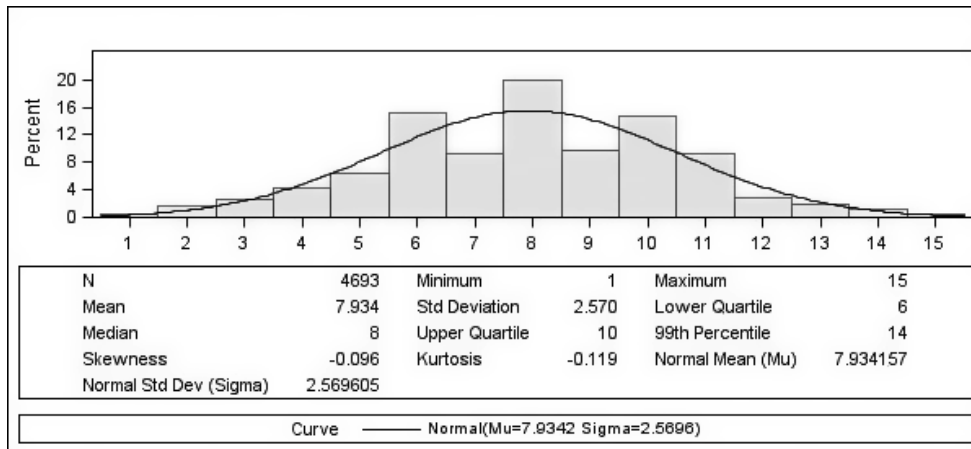


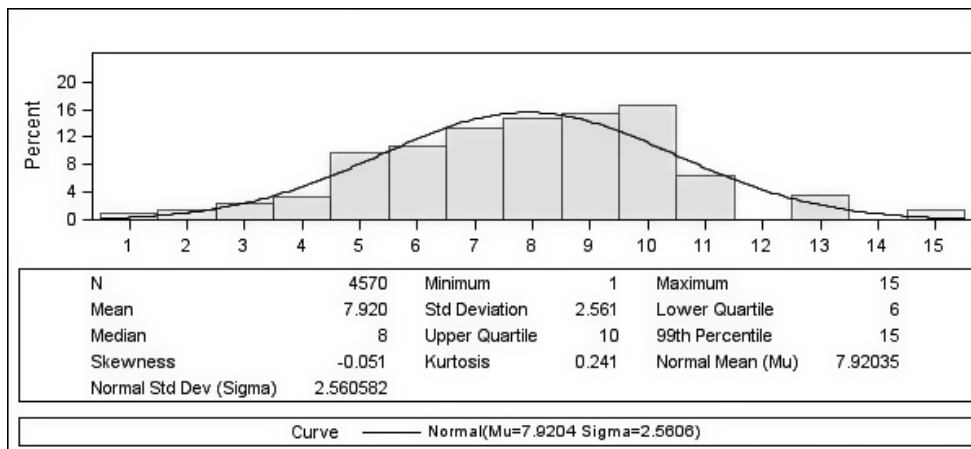
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Figure A-6.8 continued from previous page

**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**

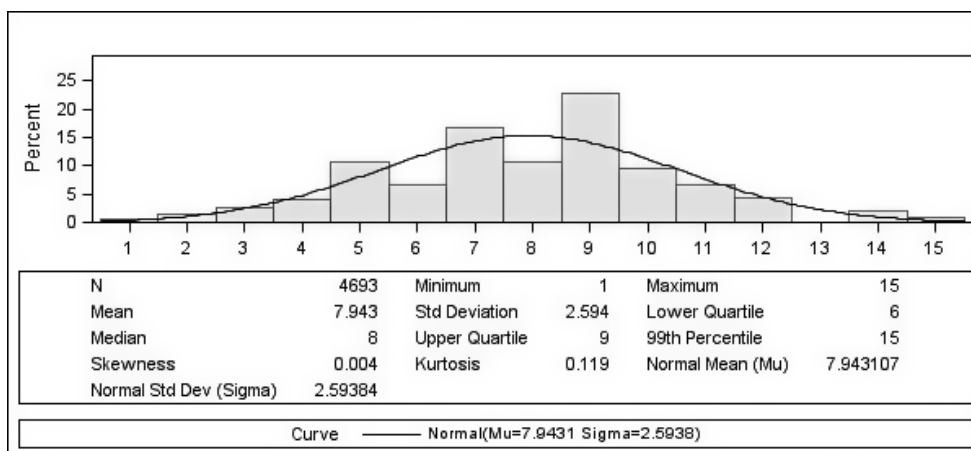
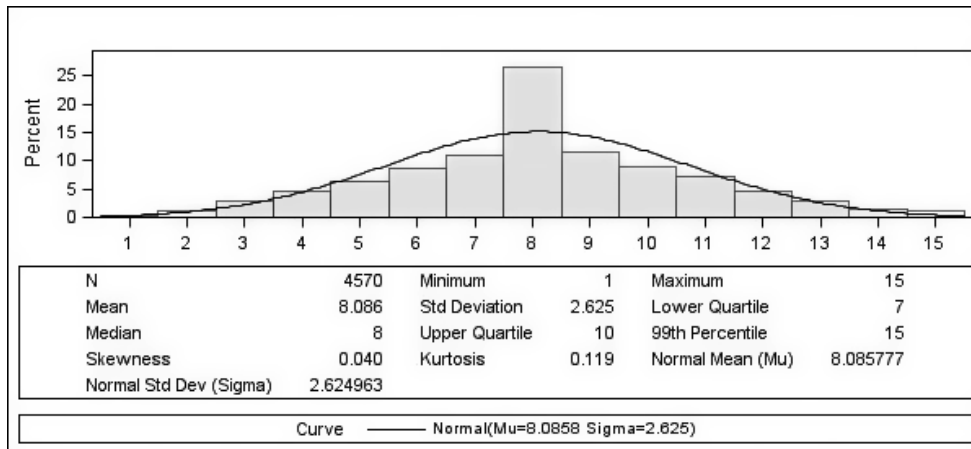
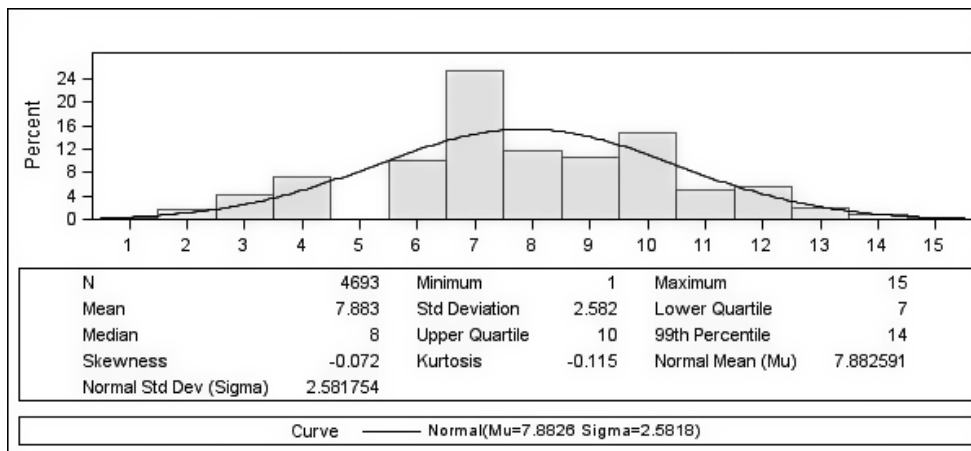


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**Figure A-6.8.22: New form Problem Solving and Data Analysis**



**Figure A-6.8.23: Base form Passport to Advanced Mathematics**



**Figure A-6.8.24: New form Passport to Advanced Mathematics**

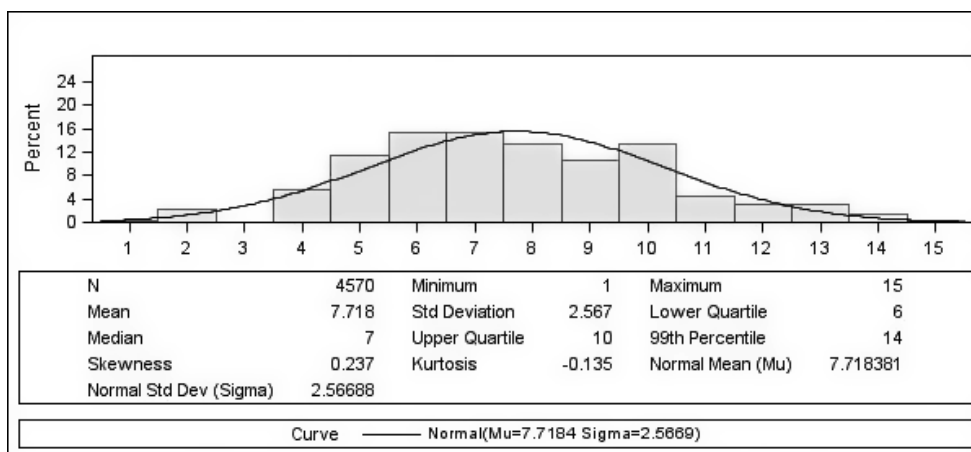
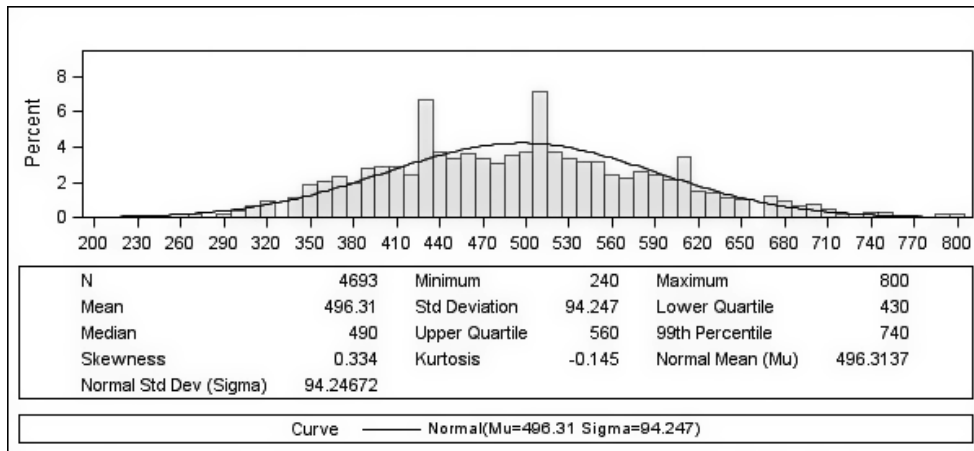
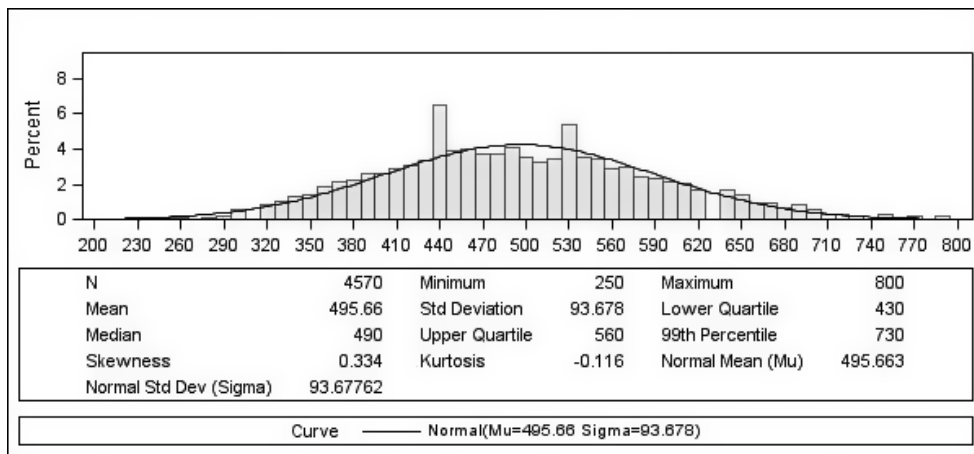


Figure A-6.8 continued from previous page

**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**

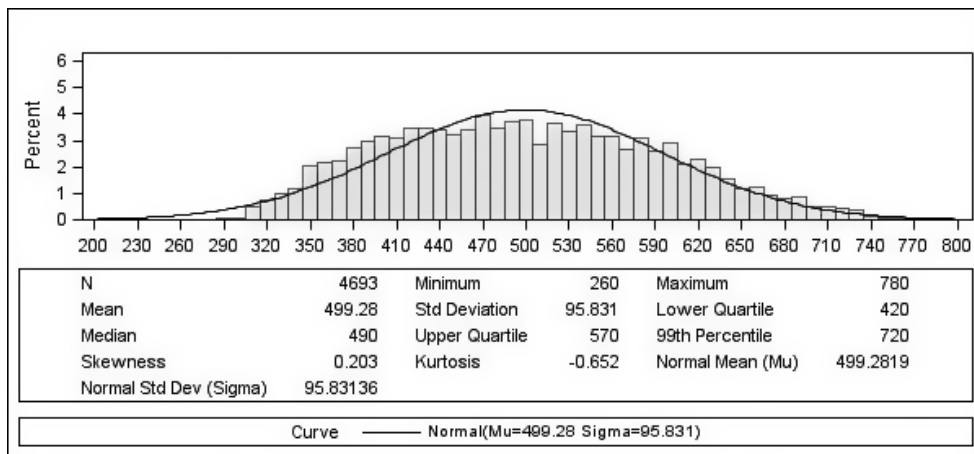
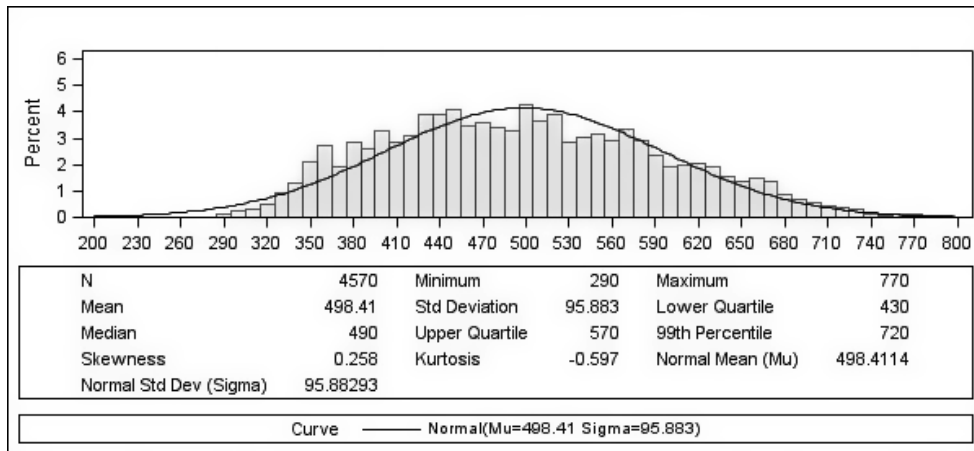


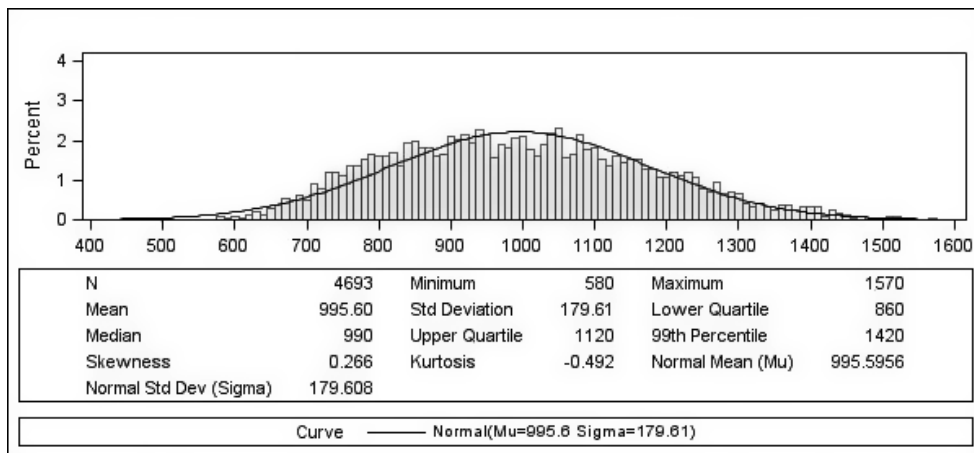
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**Figure A-6.8.28: New form Evidence-Based Reading and Writing section**



**Figure A-6.8.29: Base form Total Score**



**Figure A-6.8.30: New form Total Score**

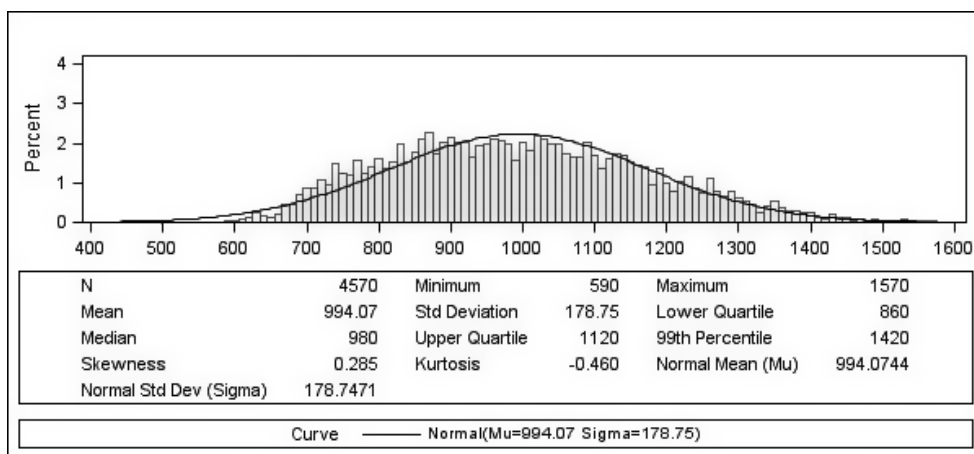




Figure A-6.9: Conditional standard errors of measurement graphs for SAT Form 1

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

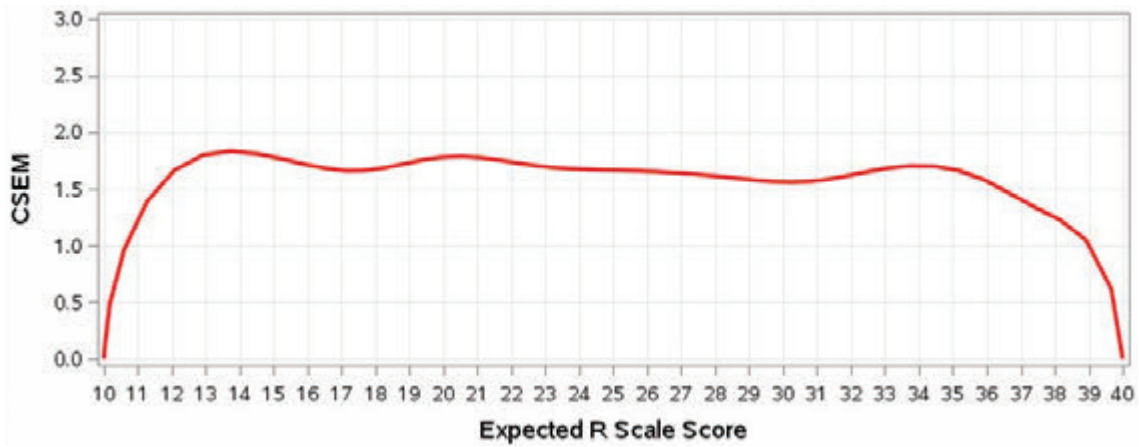


Figure A-6.9.2: Conditional standard errors of measurement for Writing and Language

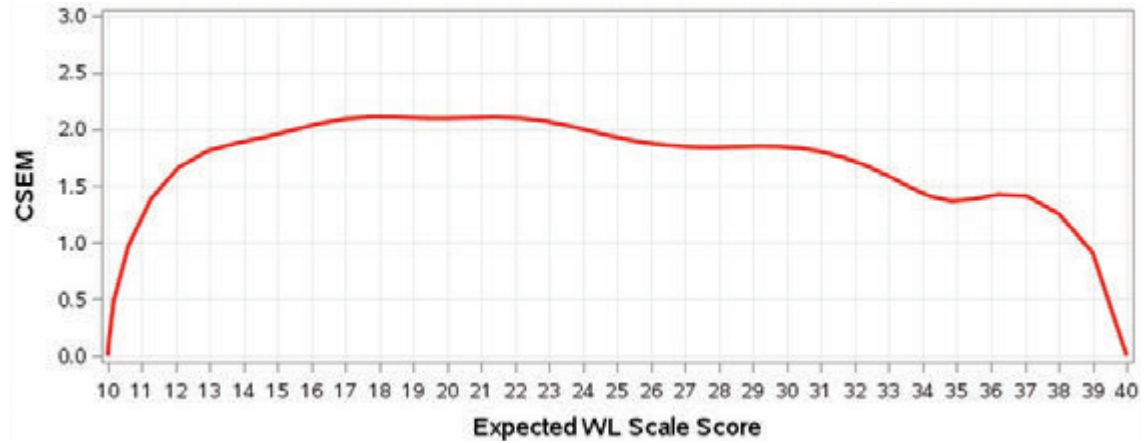


Figure A-6.9.3: Conditional standard errors of measurement for Math section score

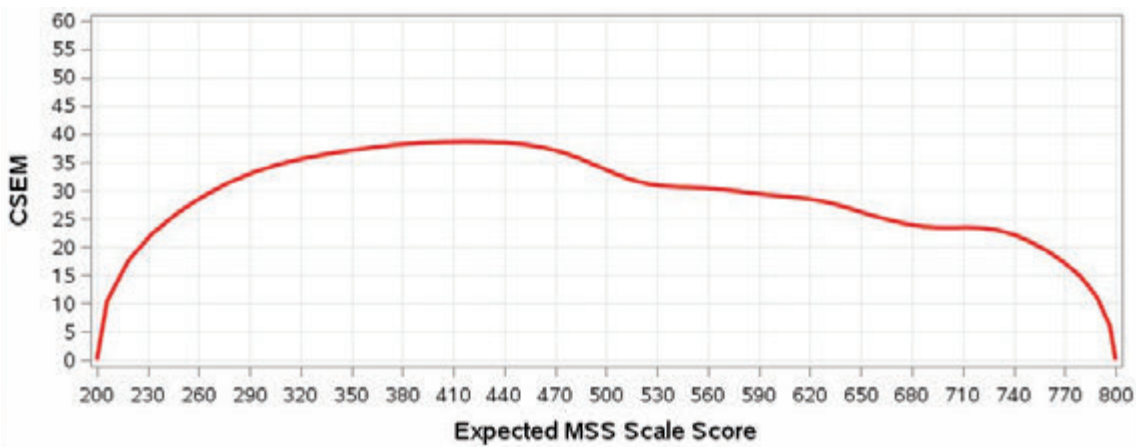


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Figure A-6.9.4: Conditional standard errors of measurement for Analysis in History/Social Studies

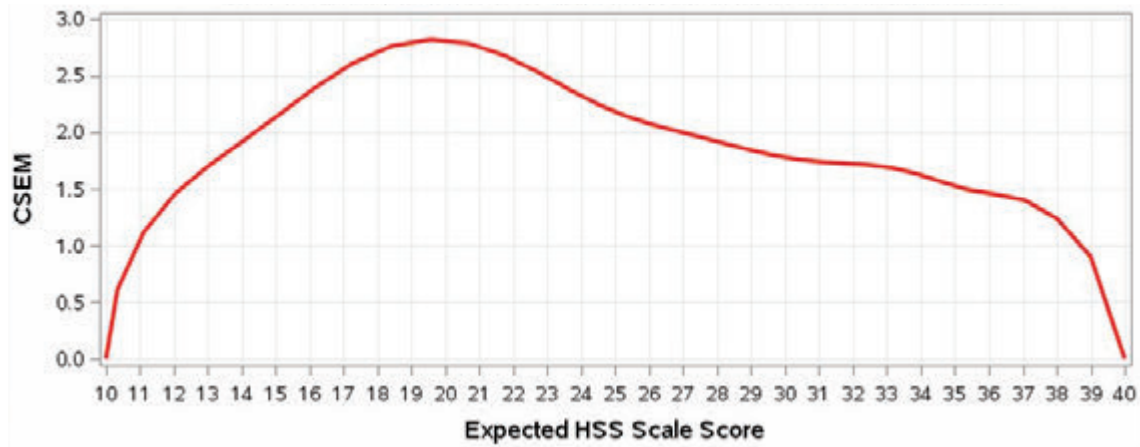


Figure A-6.9.5: Conditional standard errors of measurement for Analysis in Science

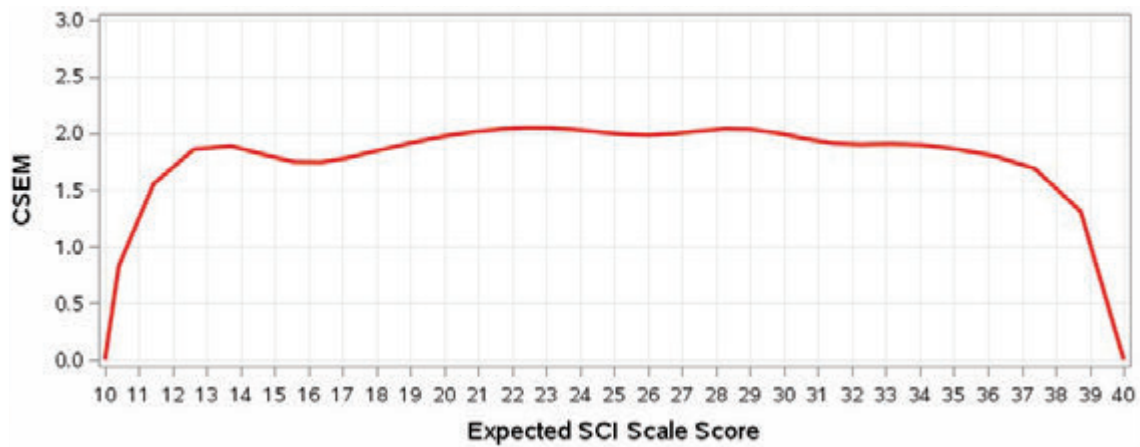


Figure A-6.9.6: Conditional standard errors of measurement for Expression of Ideas

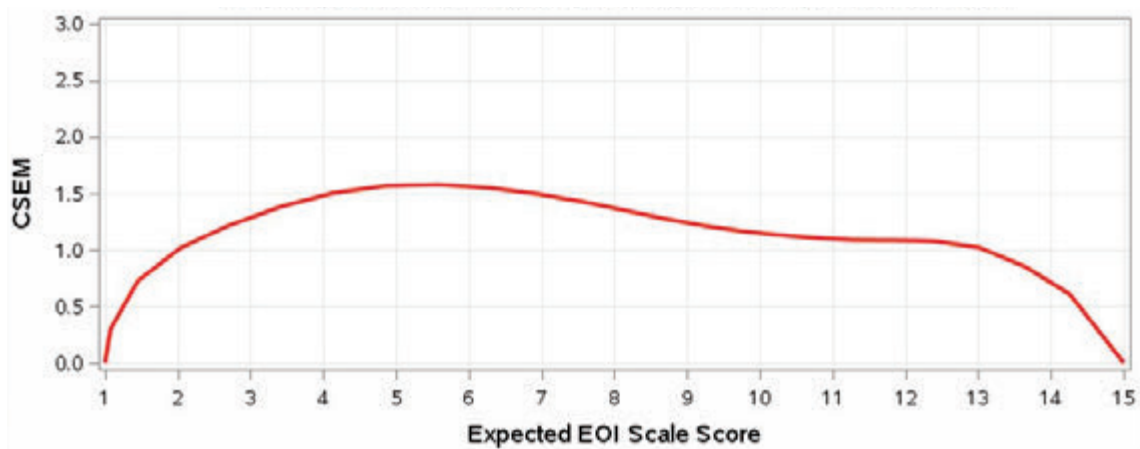


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Figure A-6.9.7: Conditional standard errors of measurement for Standard English Conventions

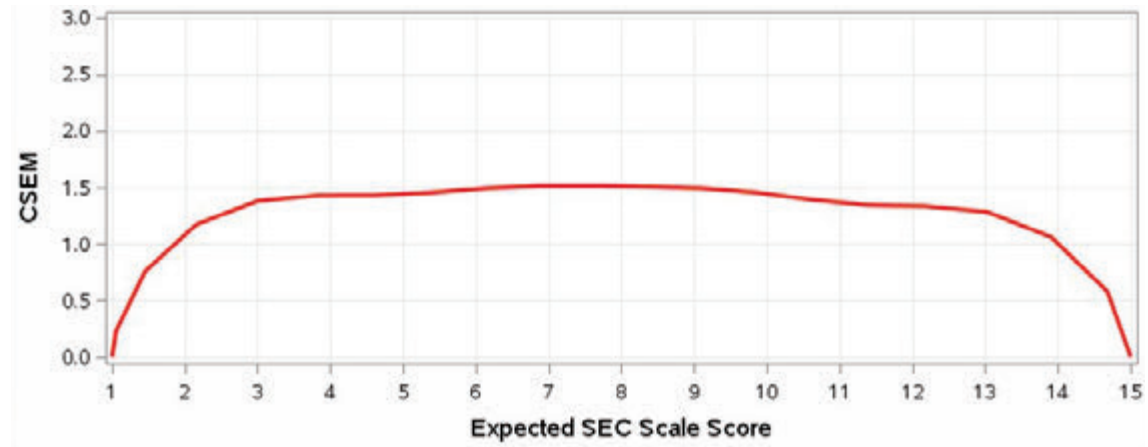


Figure A-6.9.8: Conditional standard errors of measurement for Command of Evidence

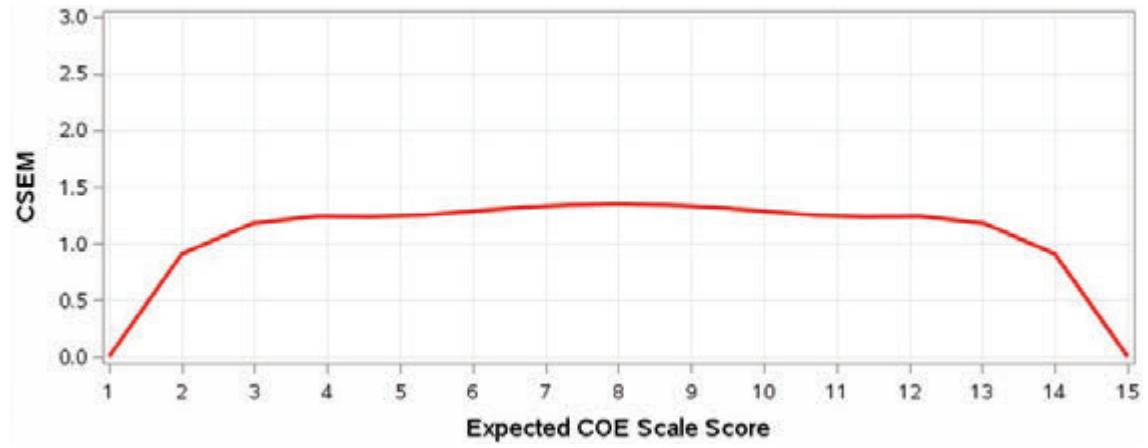


Figure A-6.9.9: Conditional standard errors of measurement for Words in Context

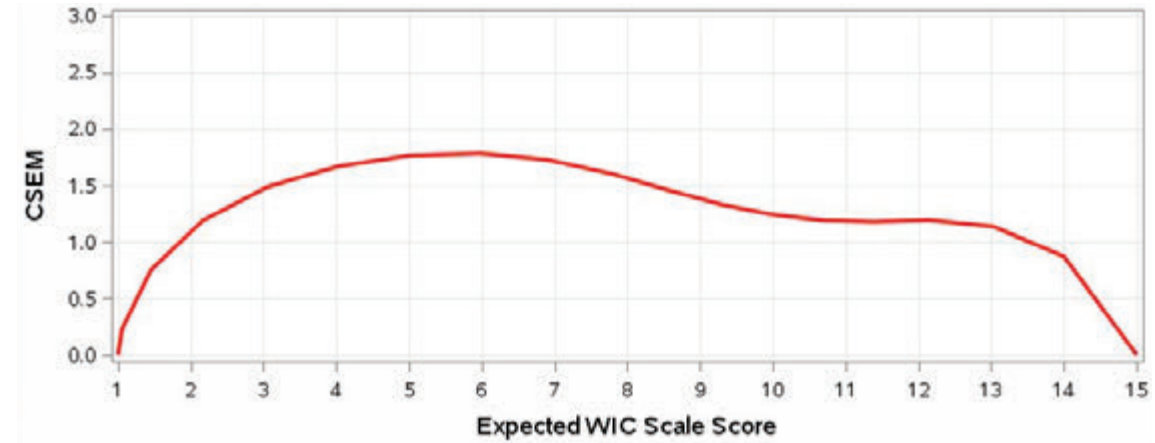


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Figure A-6.9 continued from previous page

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

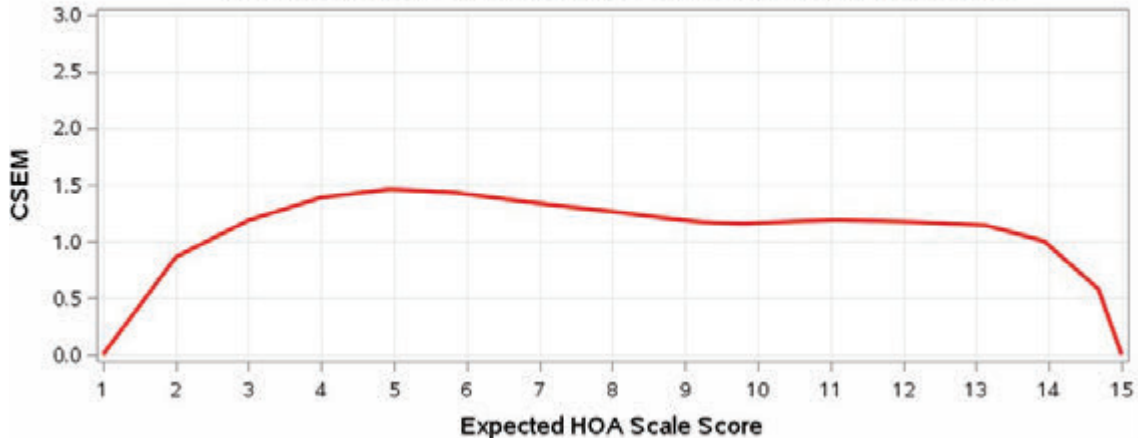


Figure A-6.9.11: Conditional standard errors of measurement for Problem Solving and Data Analysis

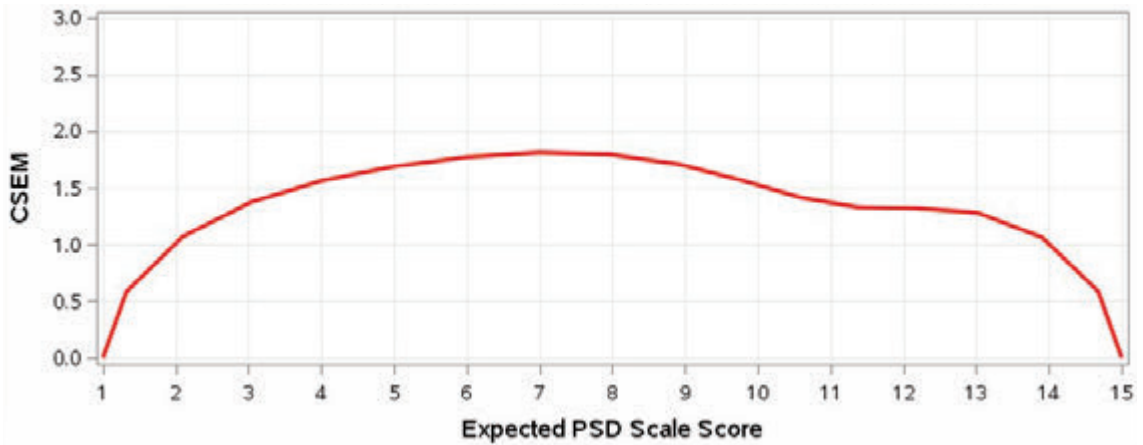


Figure A-6.9.12: Conditional standard errors of measurement for Passport to Advanced Math

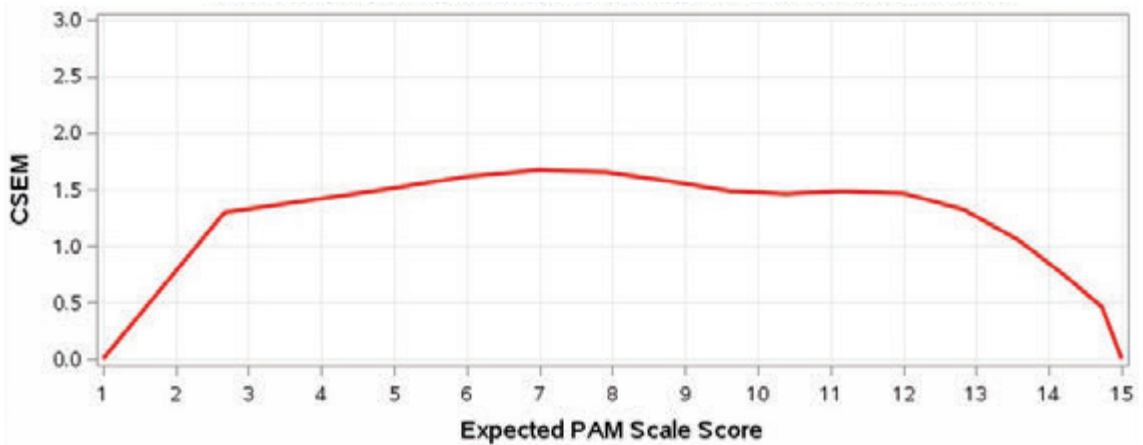


Figure A-6.10: Conditional standard errors of measurement graphs for SAT Form 2

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

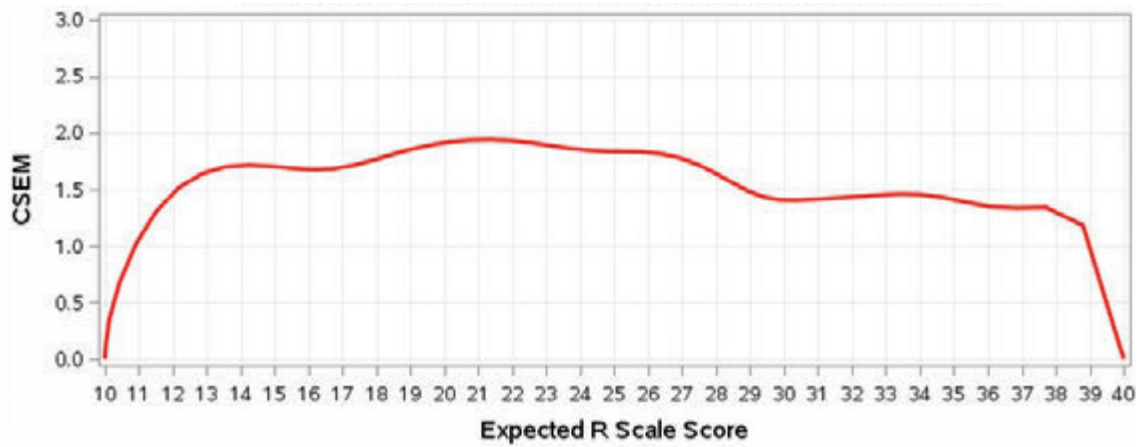


Figure A-6.10.2: Conditional standard errors of measurement for Writing and Language

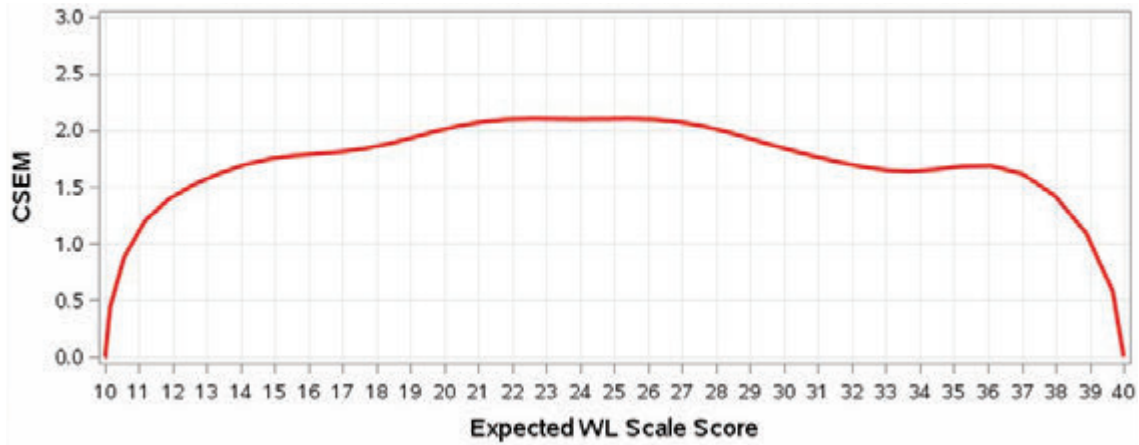


Figure A-6.10.3: Conditional standard errors of measurement for Analysis in History/Social Studies

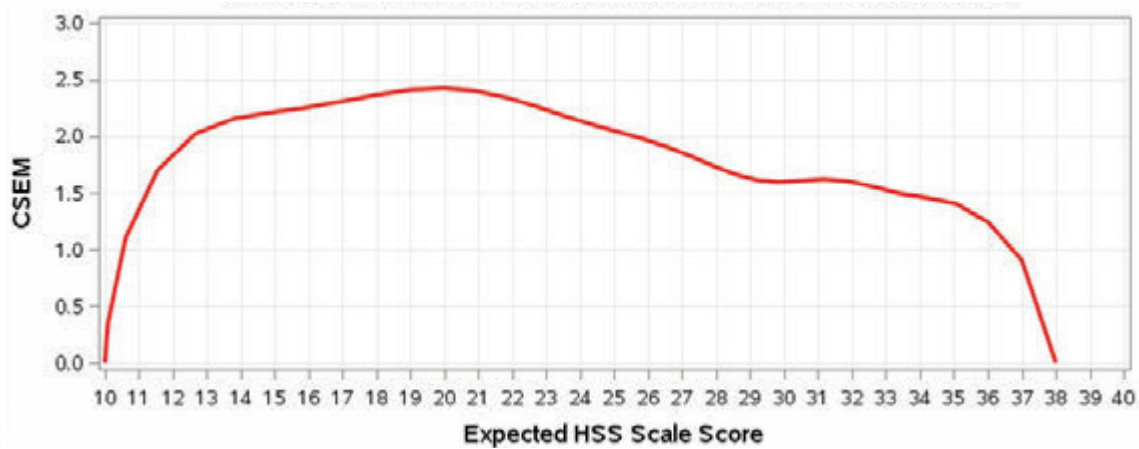


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Figure A-6.10.4 Conditional standard errors of measurement for Analysis in Science

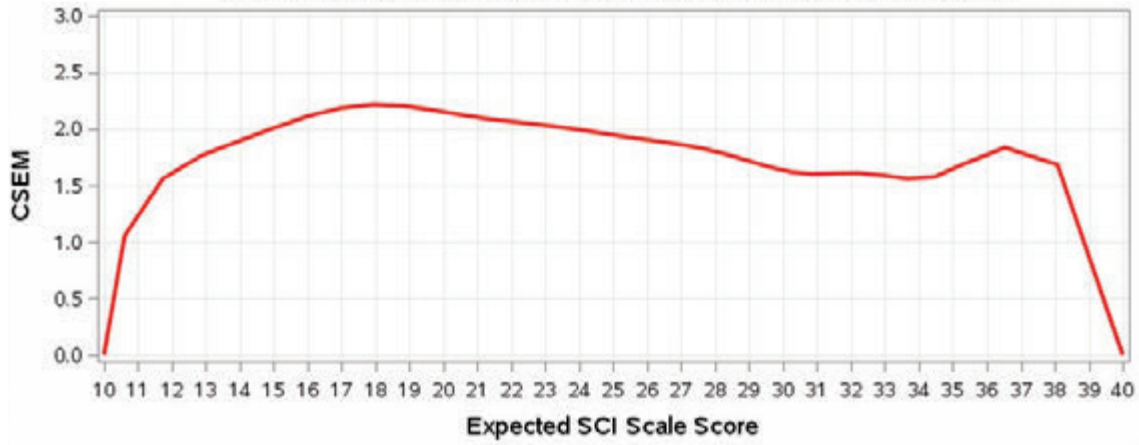


Figure A-6.10.5: Conditional standard errors of measurement for Command of Evidence

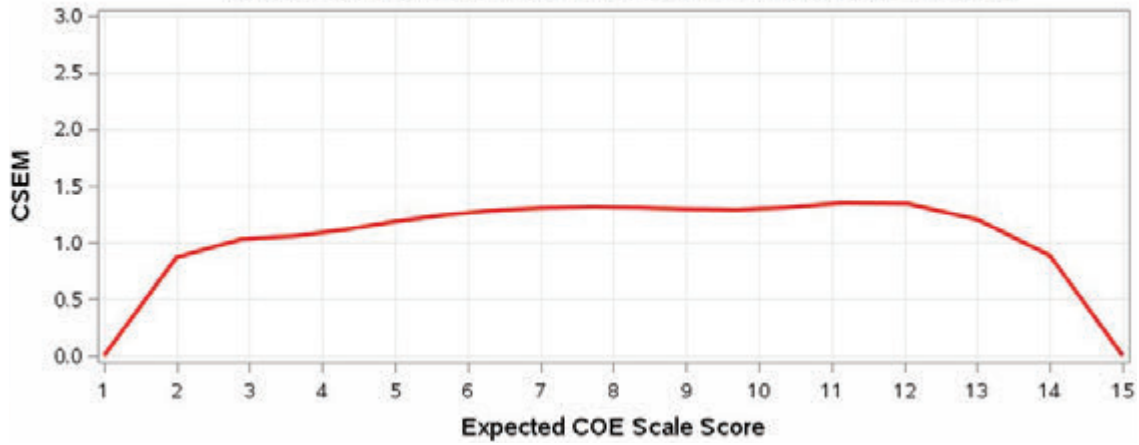


Figure A-6.10.6: Conditional standard errors of measurement for Words in Context

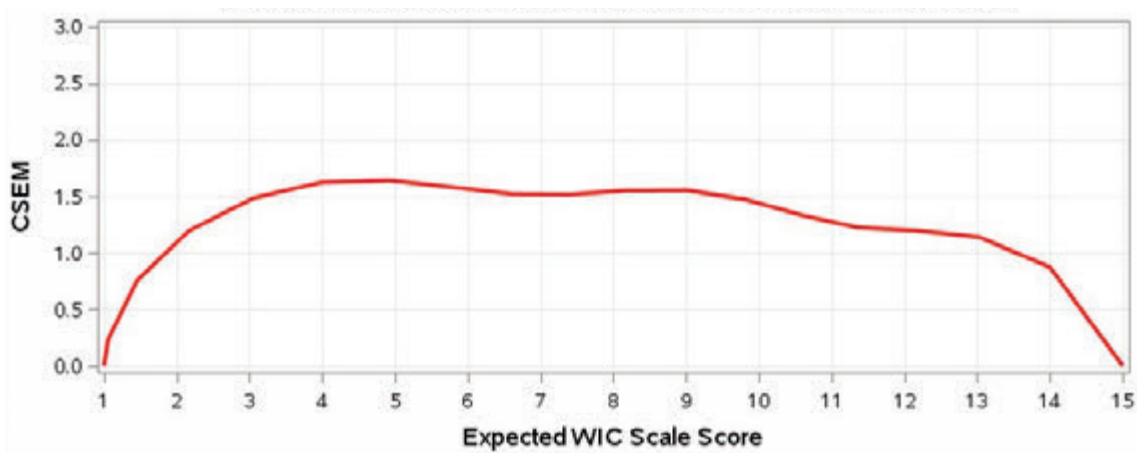


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Figure A-6.10 continued from previous page

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

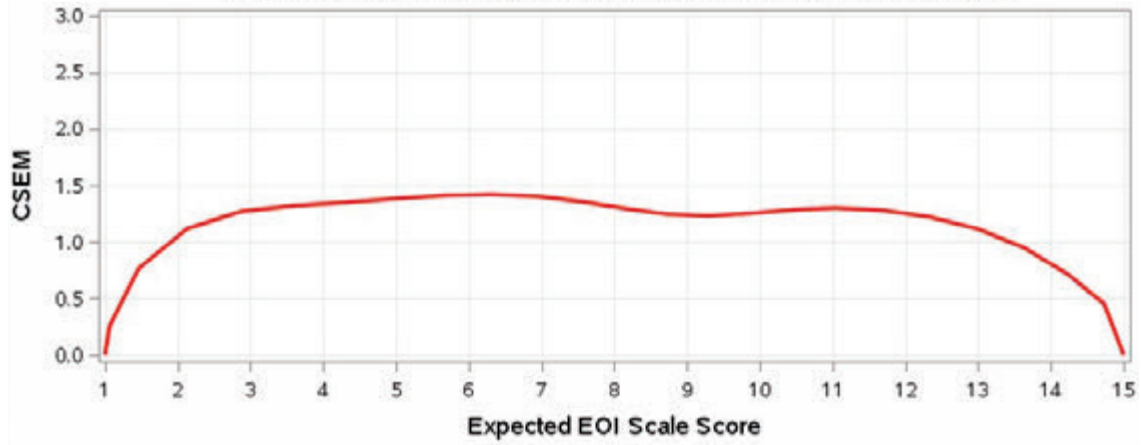


Figure A-6.10.8: Conditional standard errors of measurement for Standard English Conventions

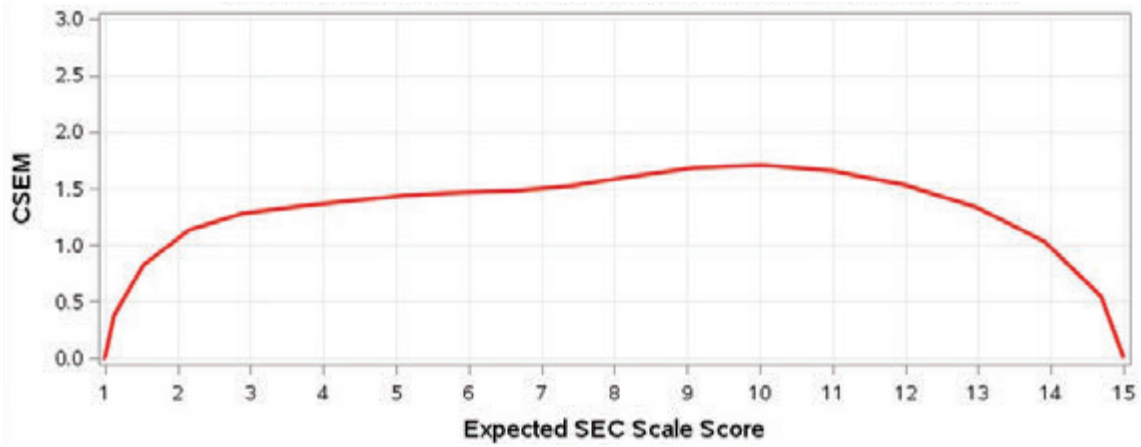


Figure A-6.10.9: Conditional standard errors of measurement for Heart of Algebra



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Figure A-6.10 continued from previous page

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

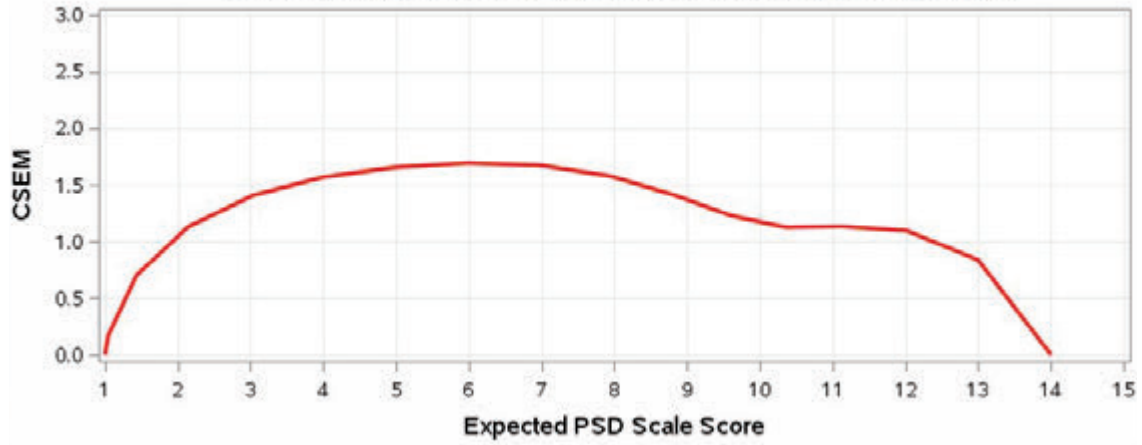


Figure A-6.10.11: Conditional standard errors of measurement for Passport to Advanced Math



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

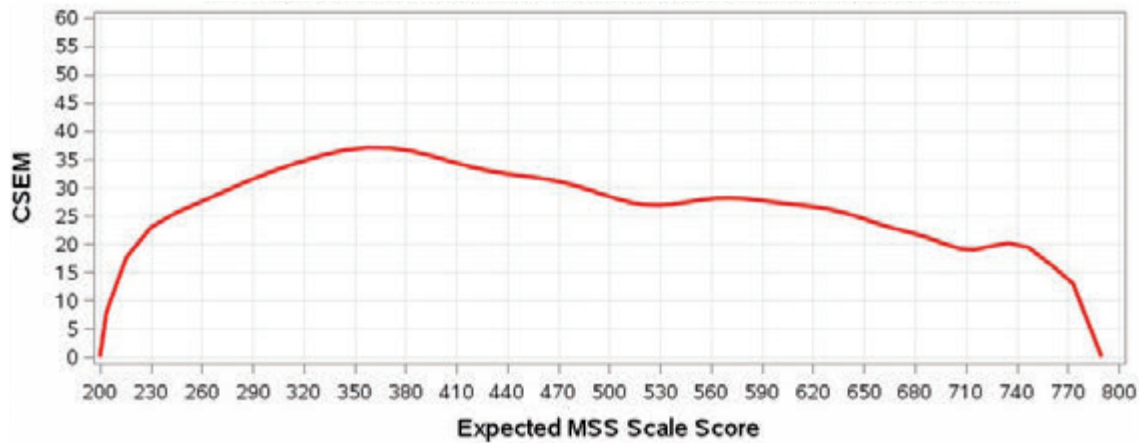




Figure A-6.11: Conditional standard errors of measurement graphs for SAT Form 3

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

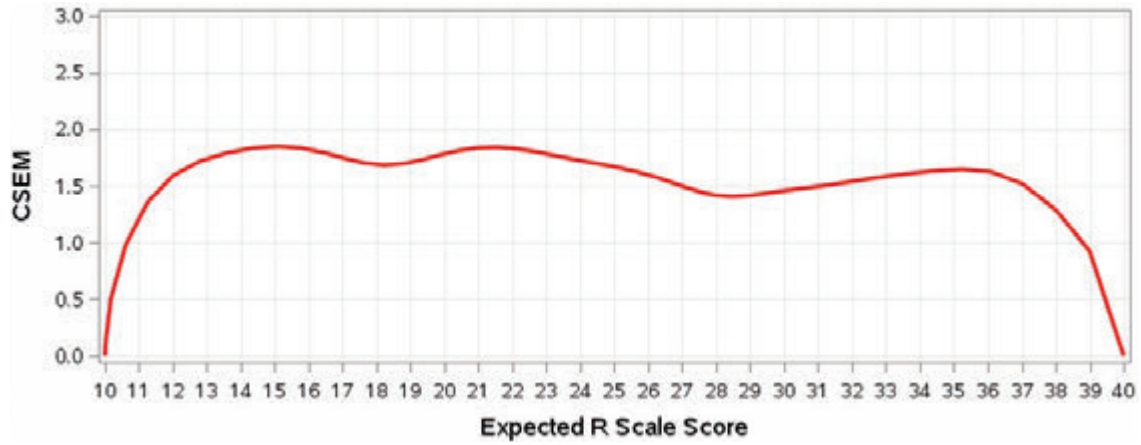


Figure A-6.11.2: Conditional standard errors of measurement for Writing and Language

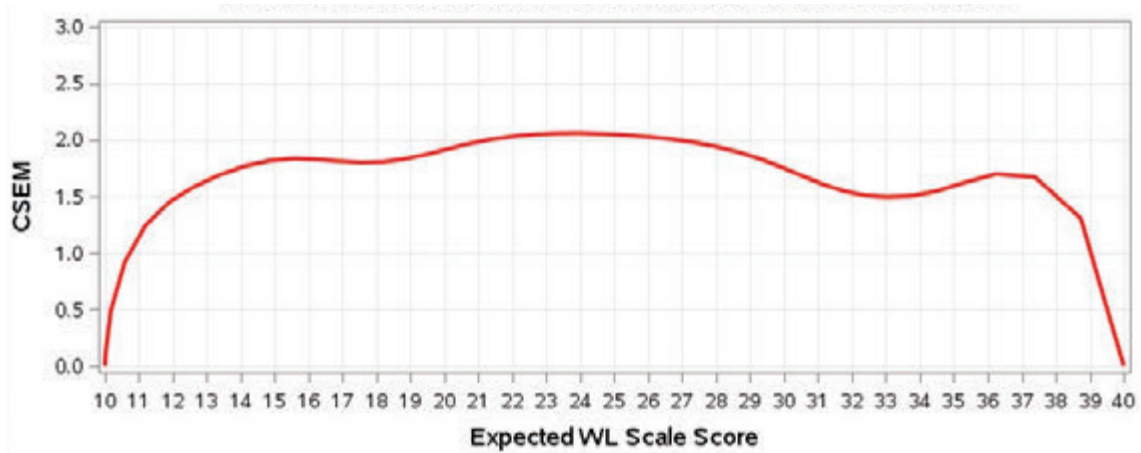


Figure A-6.11.3: Conditional standard errors of measurement for Analysis in History/Social Studies

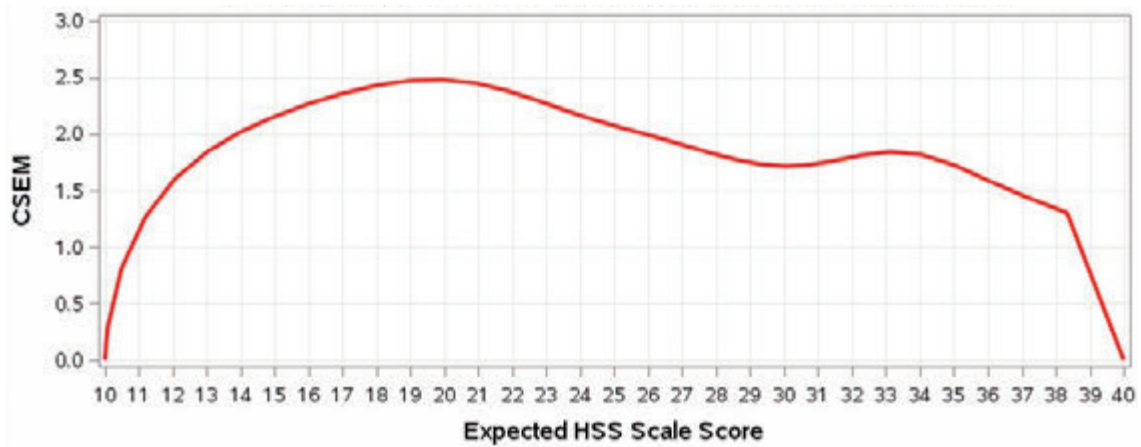


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Figure A-6.11.4: Conditional standard errors of measurement for Analysis in Science

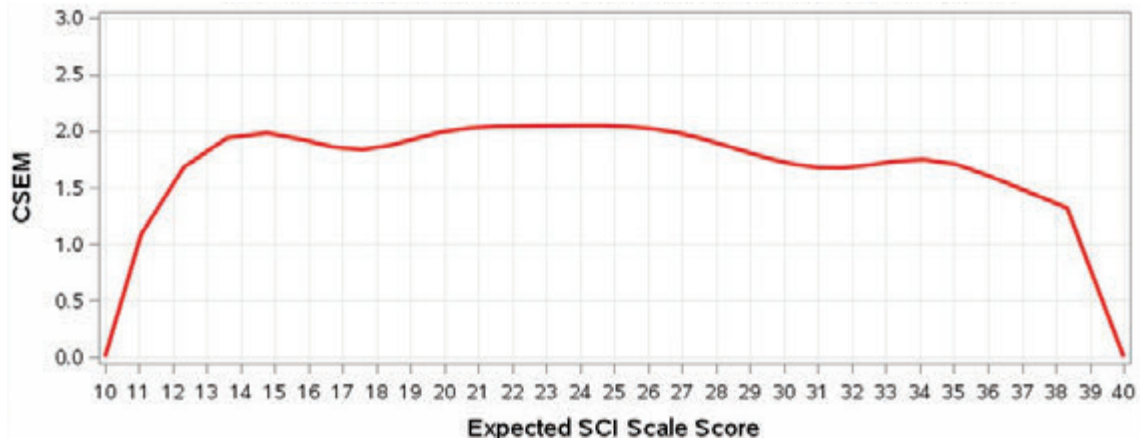


Figure A-6.11.5: Conditional standard errors of measurement for Command of Evidence

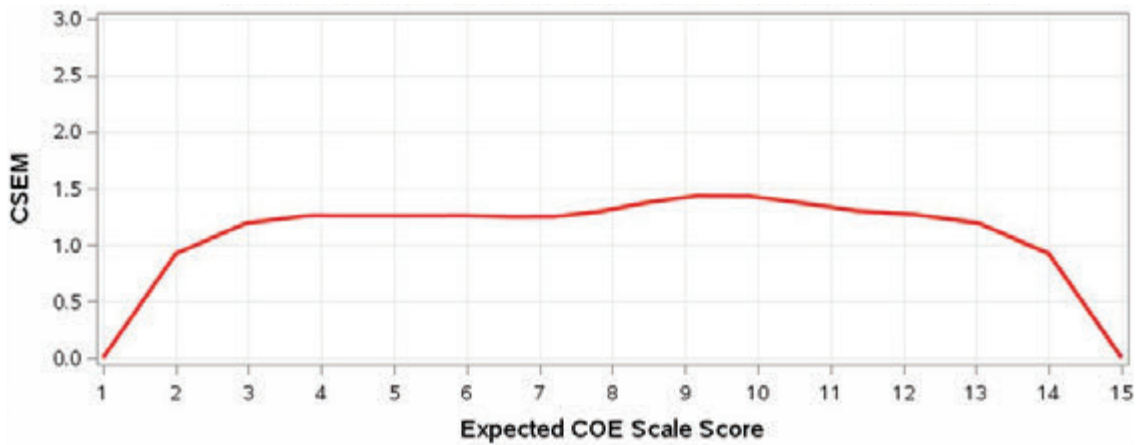


Figure A-6.11.6: Conditional standard errors of measurement for Words in Context

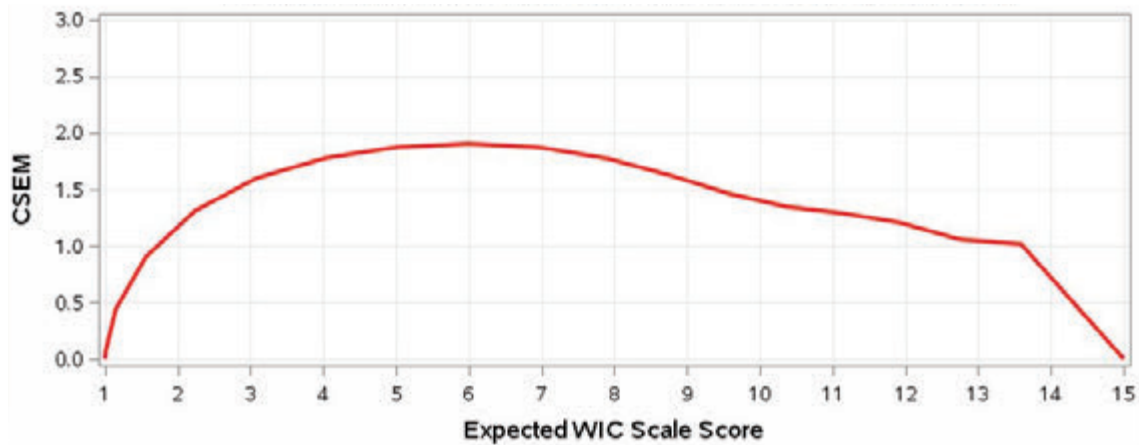


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Figure A-6.11 continued from previous page

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

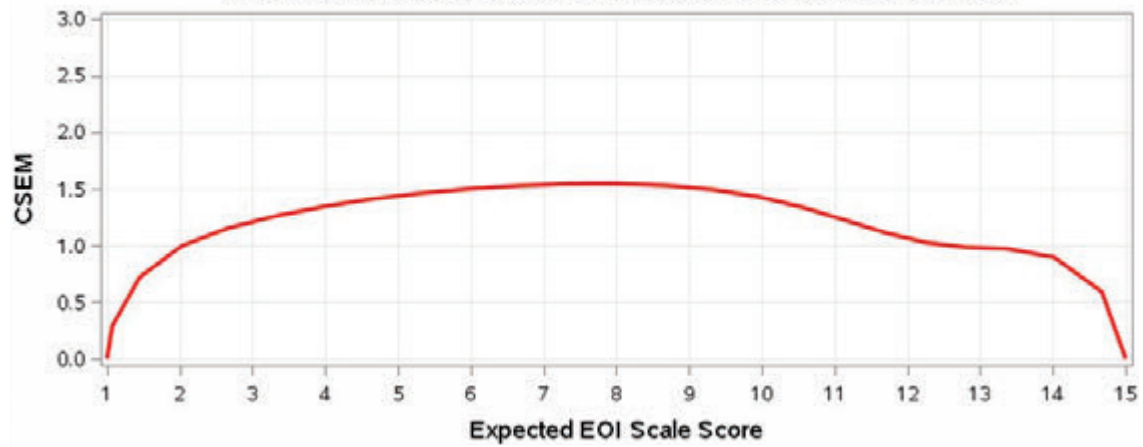


Figure A-6.11.8: Conditional standard errors of measurement for Standard English Conventions

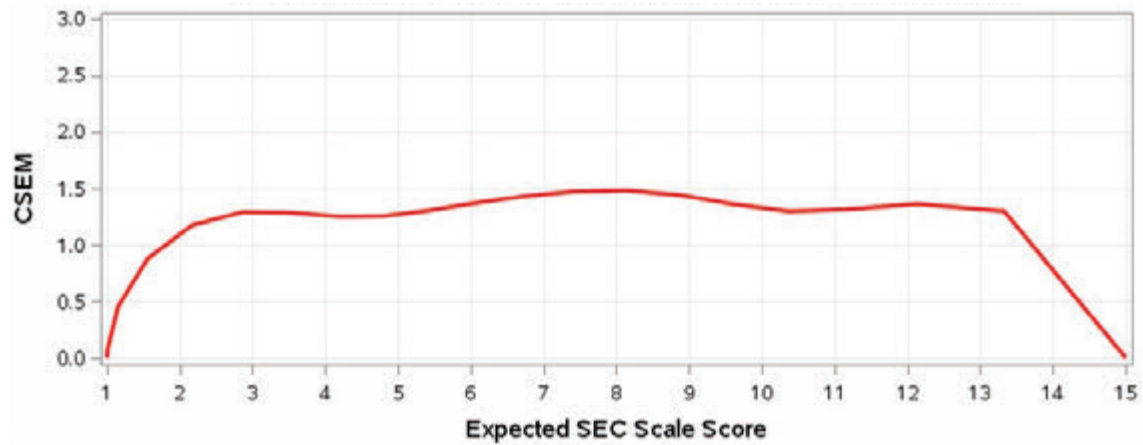


Figure A-6.11.9: Conditional standard errors of measurement for Heart of Algebra



Figure A-6.11 continued on next page

Figure A-6.11 continued from previous page

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

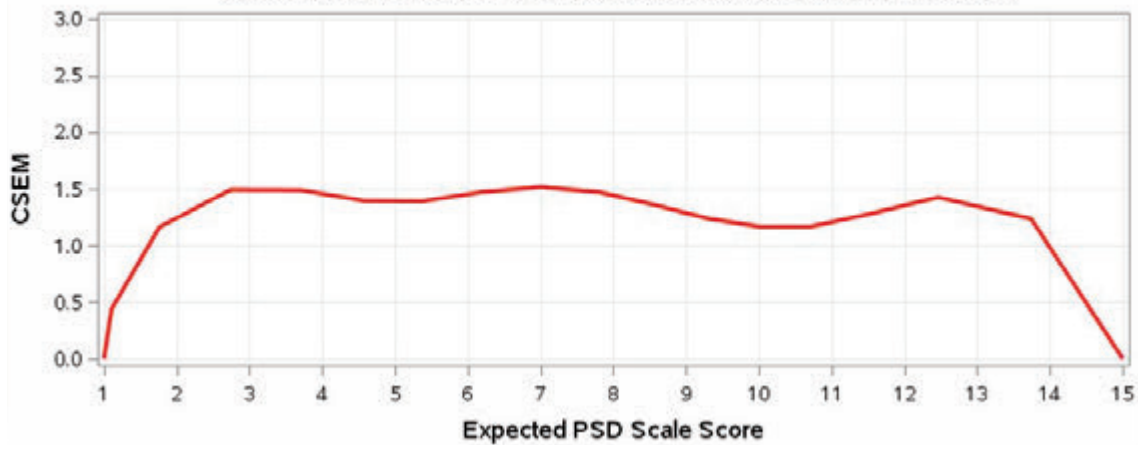


Figure A-6.11.11: Conditional standard errors of measurement for Passport to Advanced Math



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

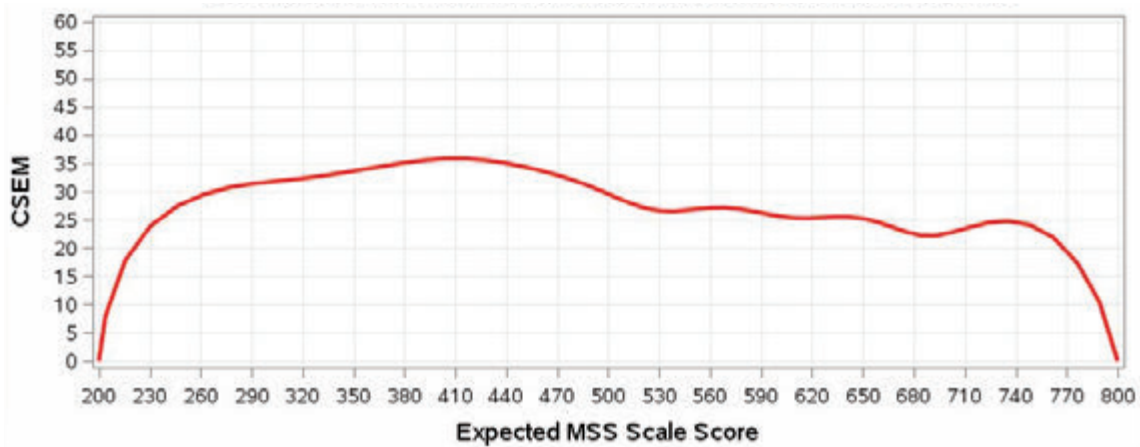


Figure A-6.12: Conditional standard errors of measurement graphs for PSAT/NMSQT and PSAT 10 Form 1

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

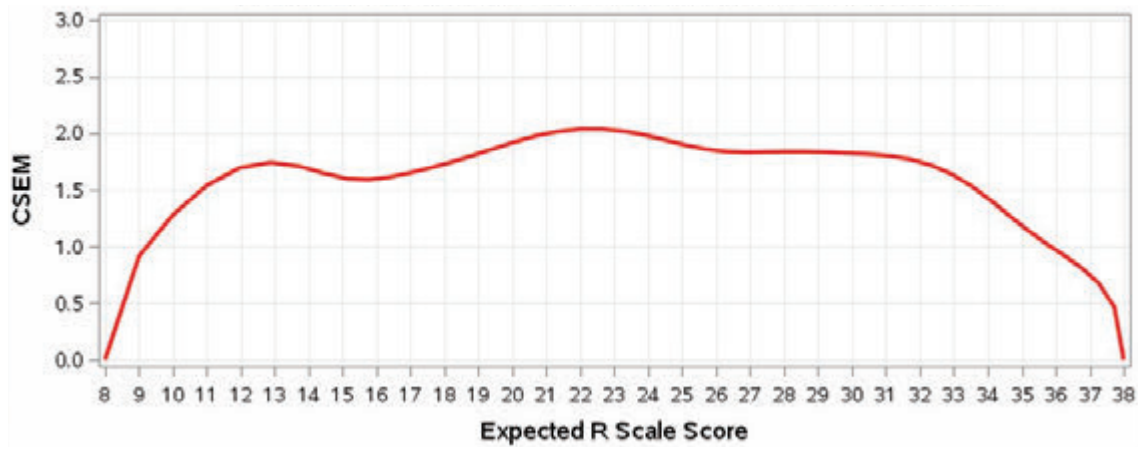


Figure A-6.12.2: Conditional standard errors of measurement for Writing and Language



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

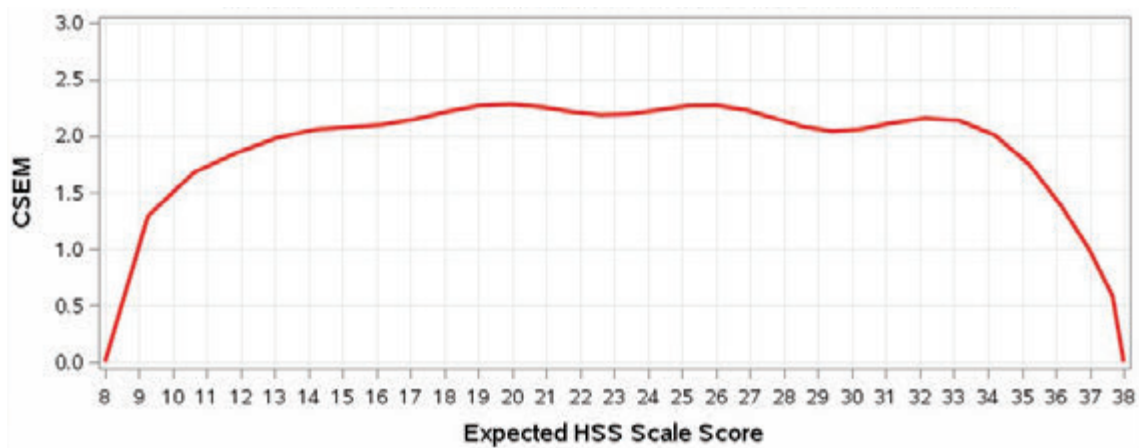


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Figure A-6.12.4: Conditional standard errors of measurement for Analysis in Science

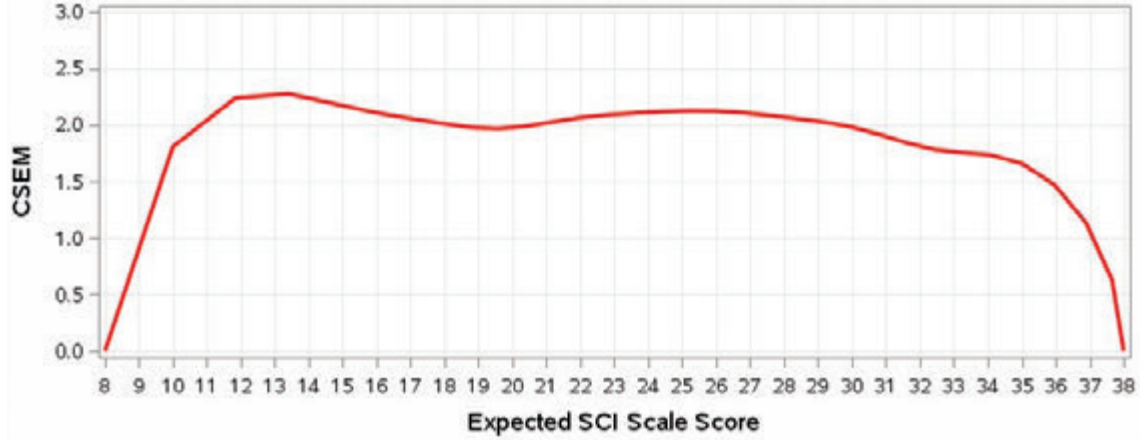


Figure A-6.12.5: Conditional standard errors of measurement for Command of Evidence

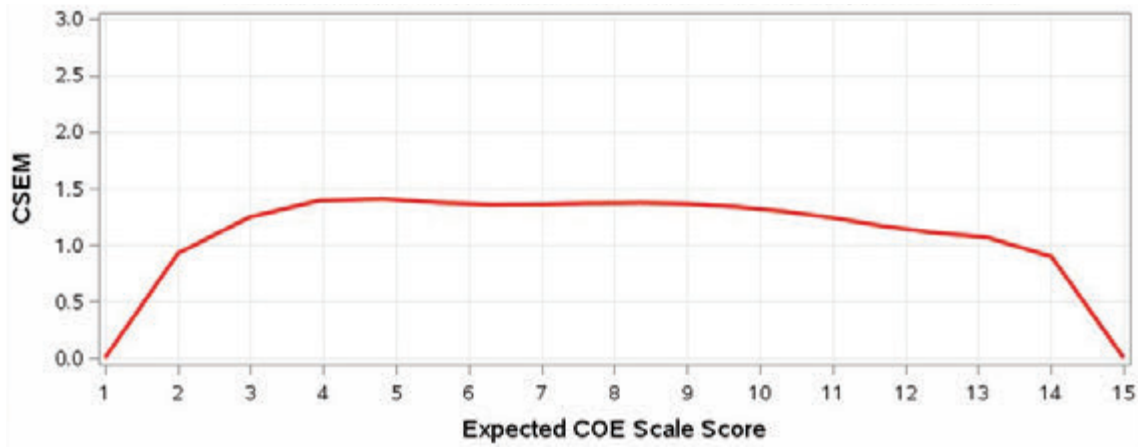


Figure A-6.12.6: Conditional standard errors of measurement for Words in Context

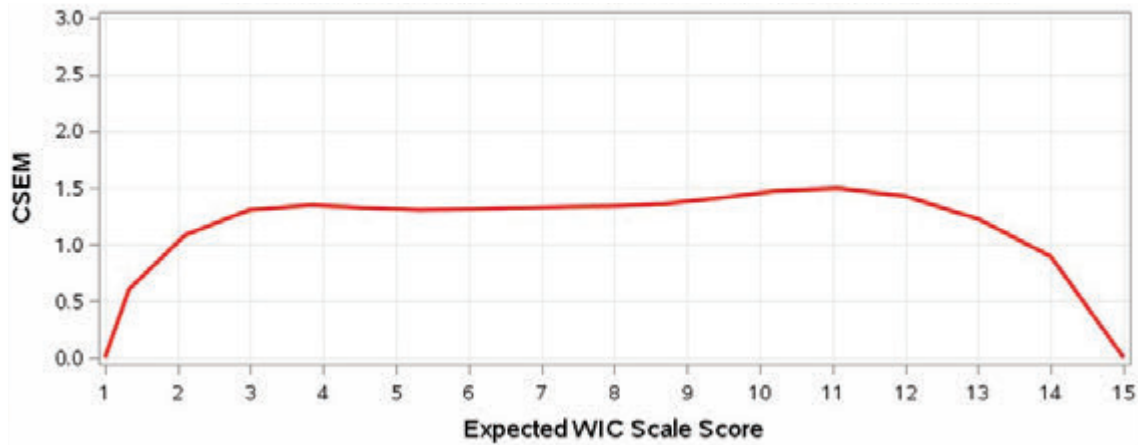


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Figure A-6.12.7: Conditional standard errors of measurement for Expression of Ideas

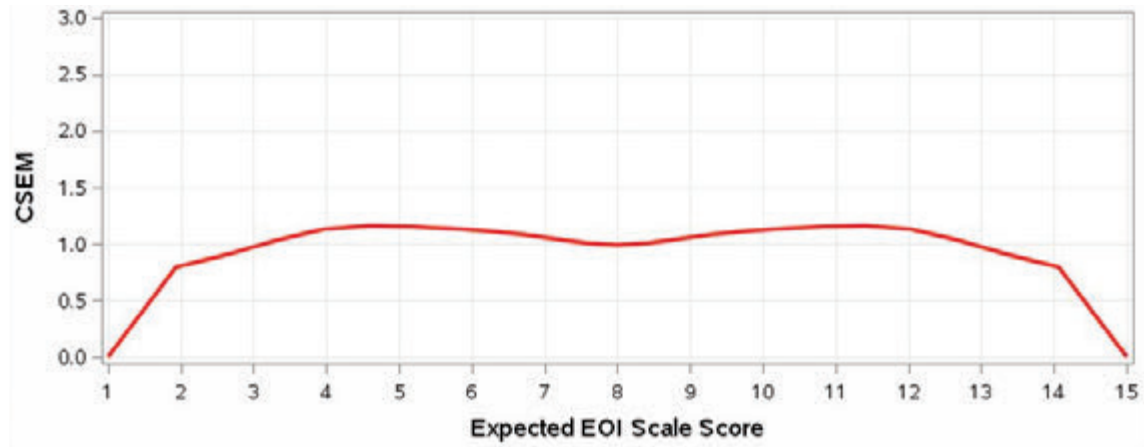


Figure A-6.12.8: Conditional standard errors of measurement for Standard English Conventions

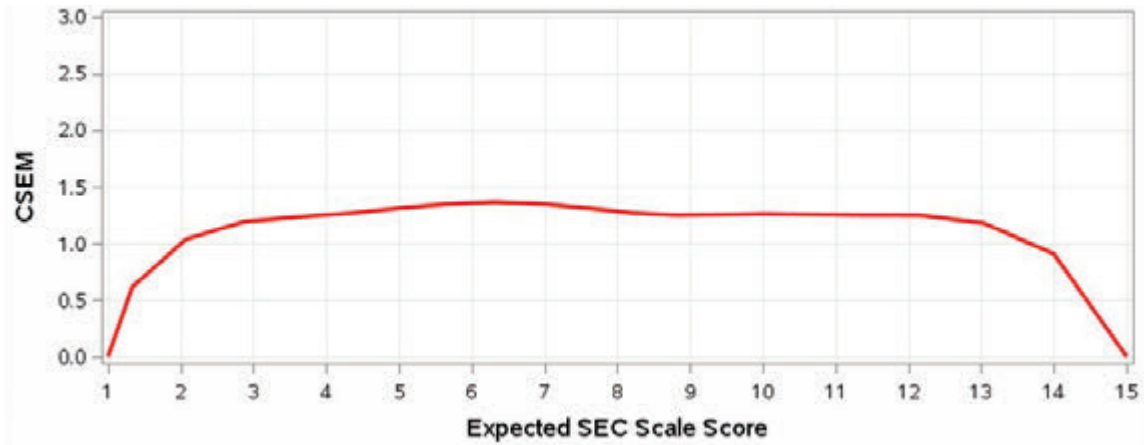


Figure A-6.12.9: Conditional standard errors of measurement for Heart of Algebra

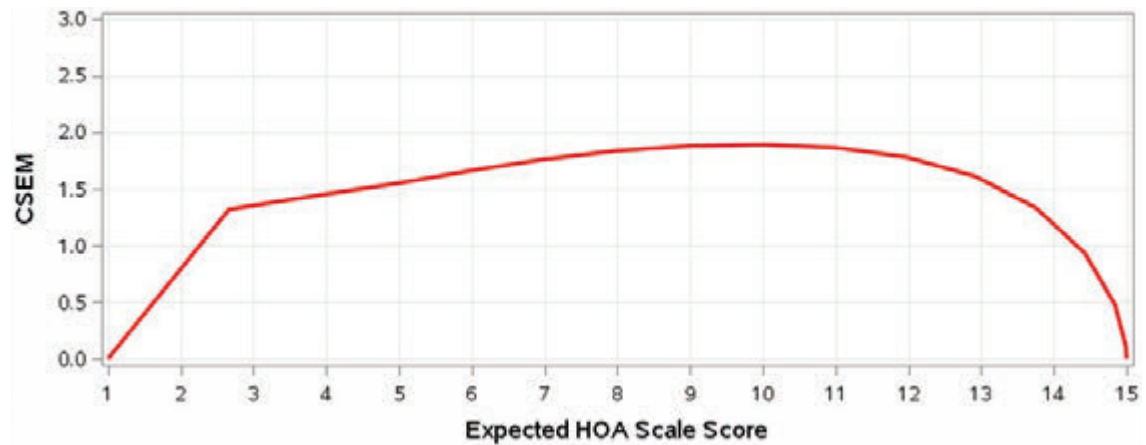


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Figure A-6.12.10: Conditional standard errors of measurement for Problem Solving and Data Analysis

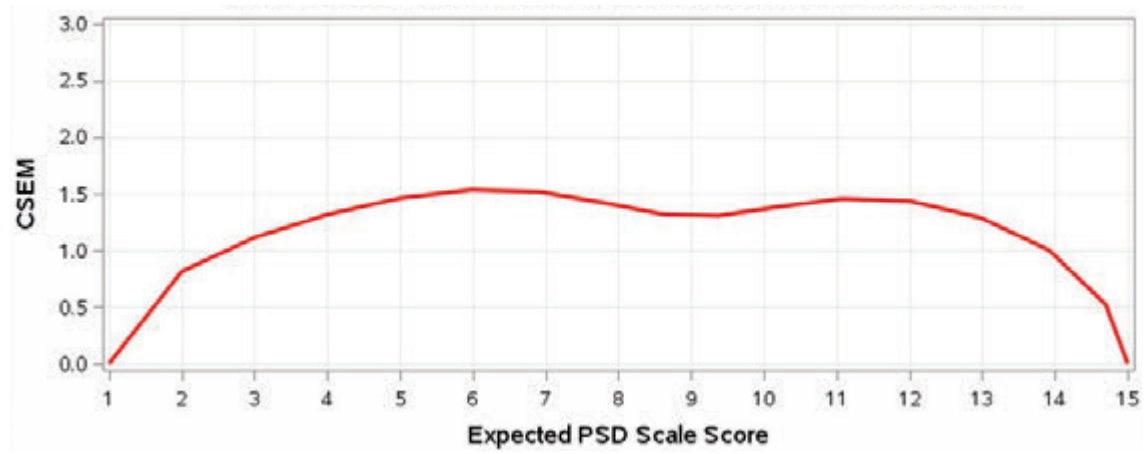


Figure A-6.12.11: Conditional standard errors of measurement for Passport to Advanced Math

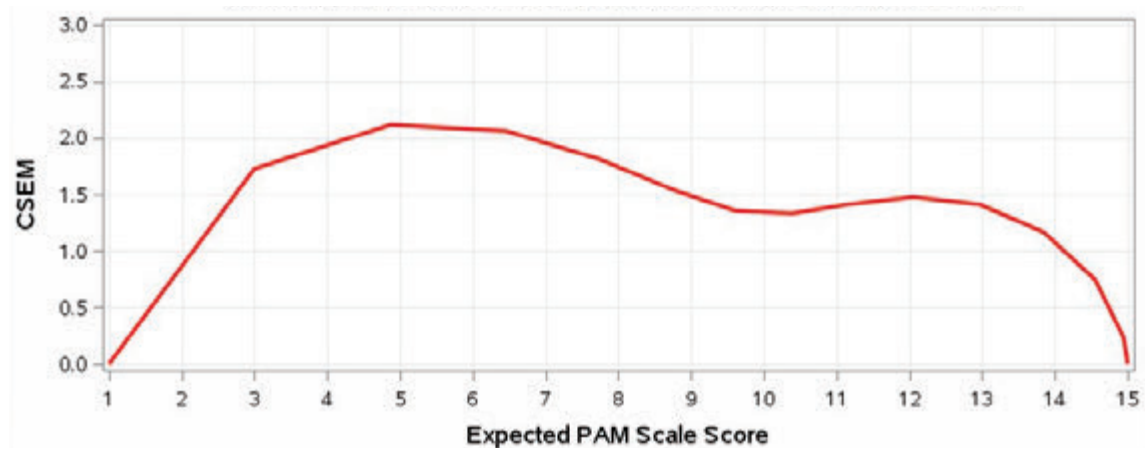


Figure A-6.12.12: Conditional standard errors of measurement for Math section score

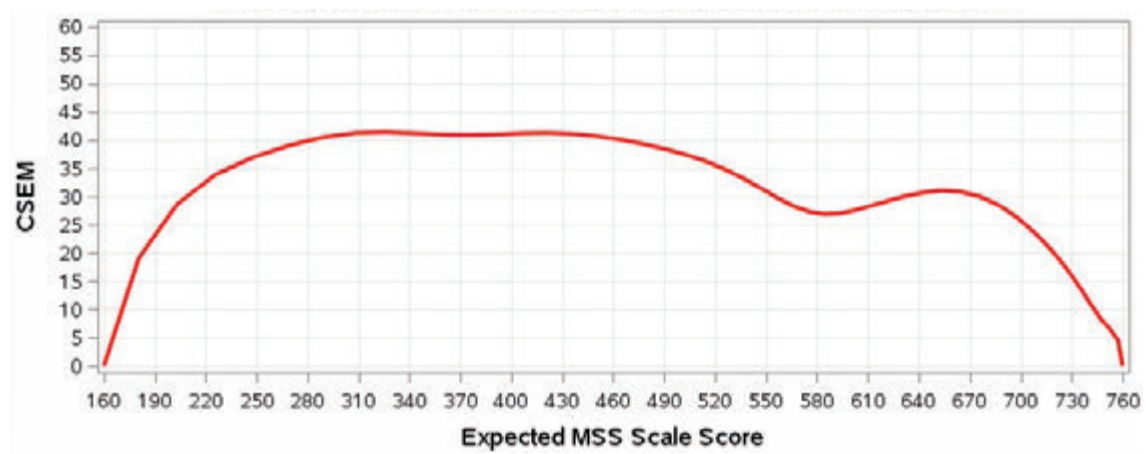




Figure A-6.13: Conditional standard errors of measurement graphs for PSAT/NMSQT and PSAT 10 Form 2

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

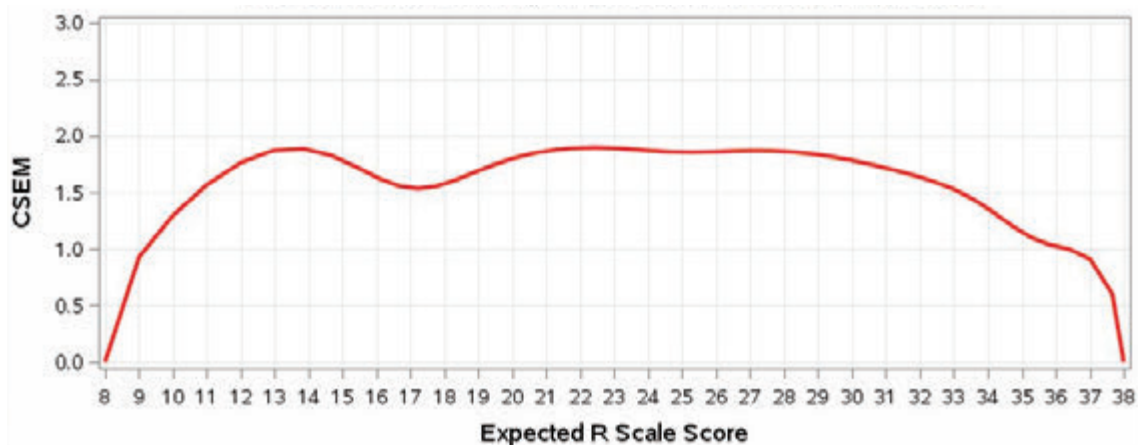


Figure A-6.13.2: Conditional standard errors of measurement for Writing and Language

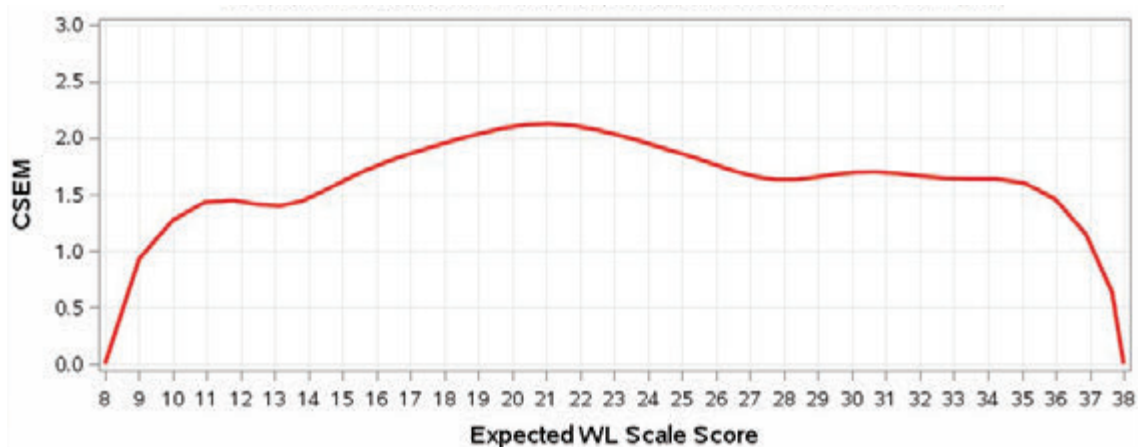


Figure A-6.13.3: Conditional standard errors of measurement for Analysis in History/Social Studies

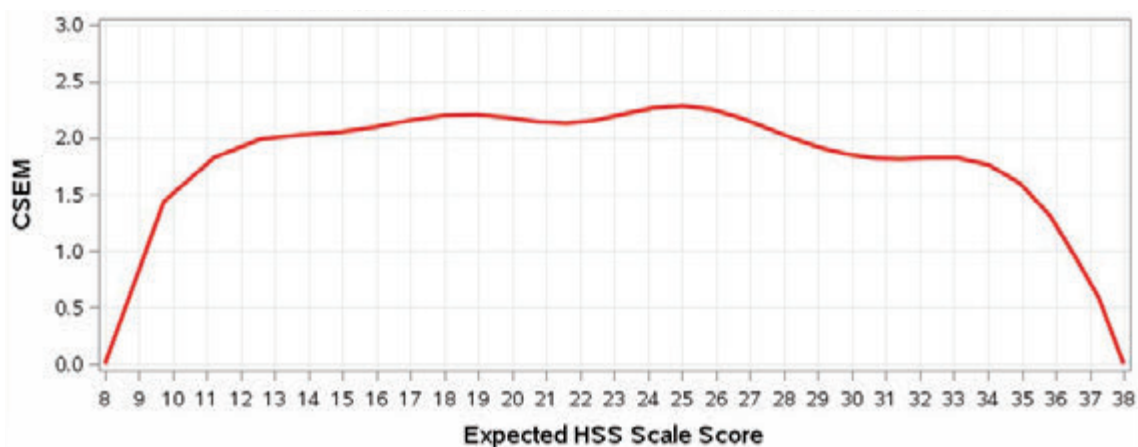


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Figure A-6.13.4: Conditional standard errors of measurement for Analysis in Science

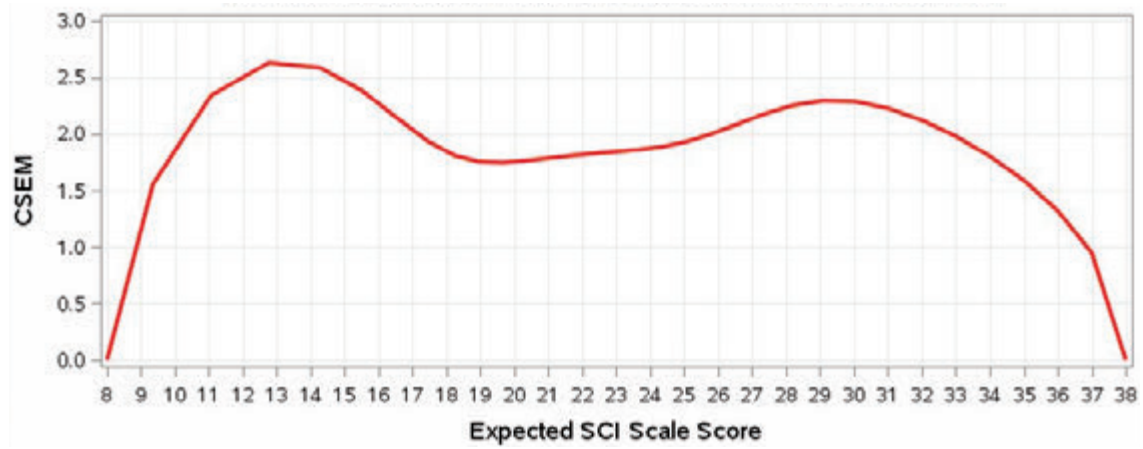


Figure A-6.13.5: Conditional standard errors of measurement for Command of Evidence

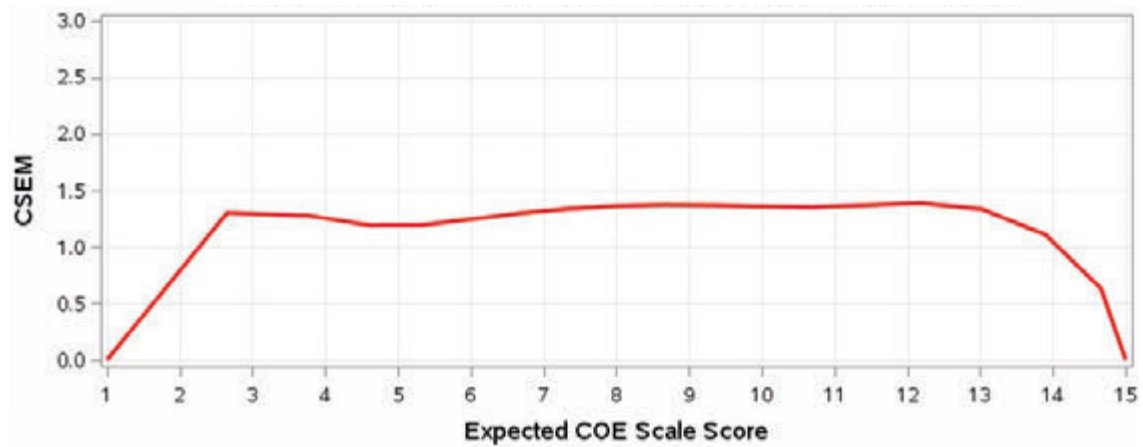


Figure A-6.13.6: Conditional standard errors of measurement for Words in Context

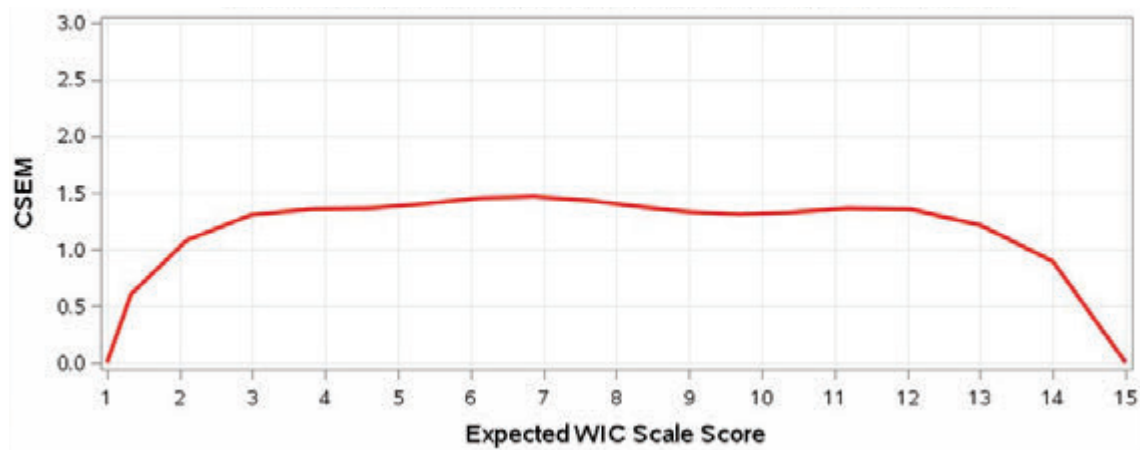


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Figure A-6.13.7: Conditional standard errors of measurement for Expression of Ideas

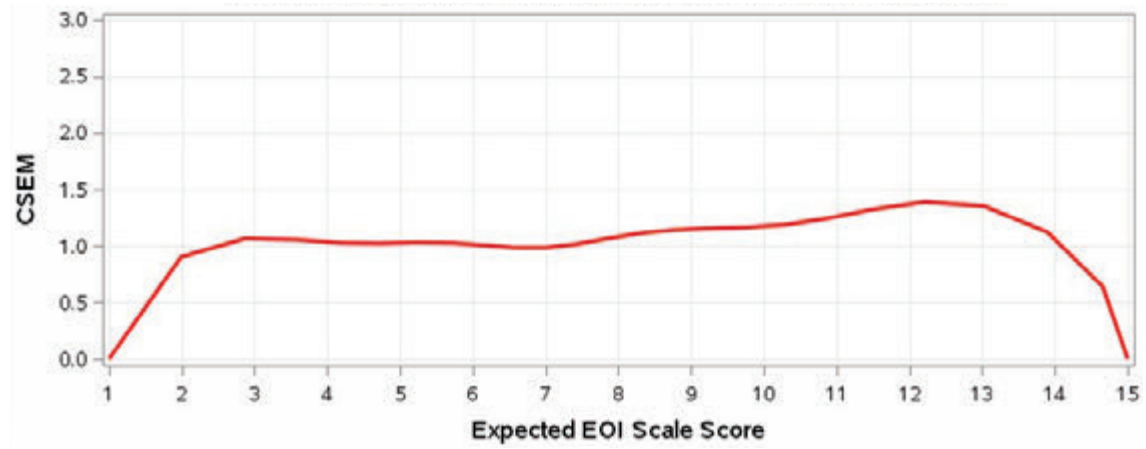


Figure A-6.13.8: Conditional standard errors of measurement for Standard English Conventions

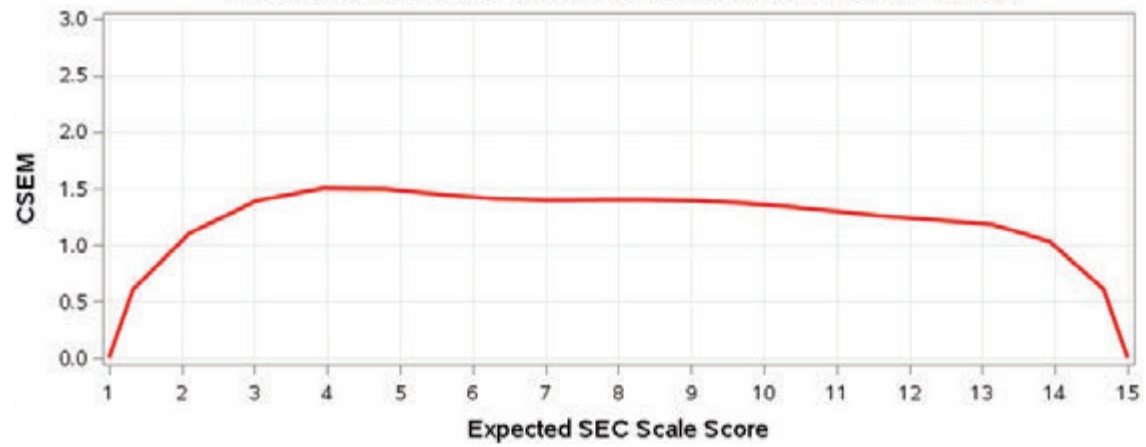


Figure A-6.13.9: Conditional standard errors of measurement for Heart of Algebra

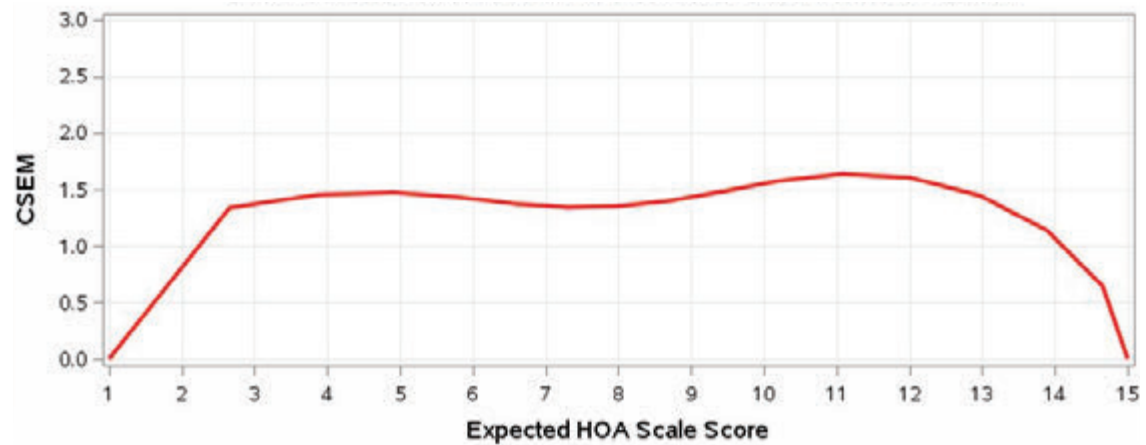


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Figure A-6.13 continued from previous page

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

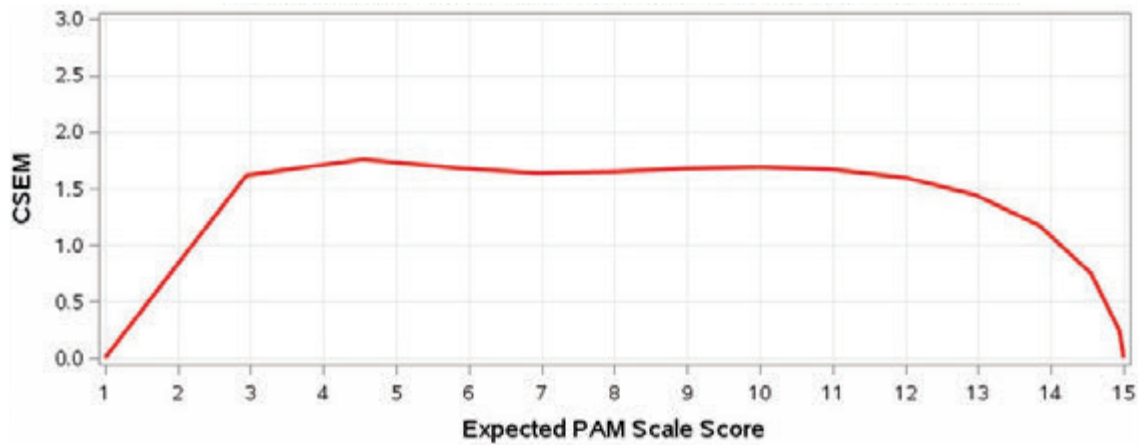


Figure A-6.13.12: Conditional standard errors of measurement for Math section score

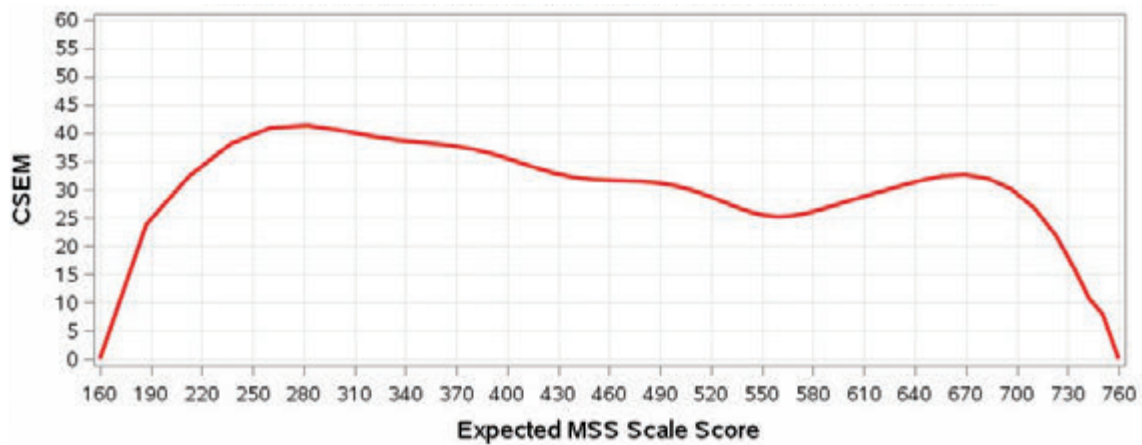


Figure A-6.14: Conditional standard errors of measurement graphs for PSAT 8/9 Form 1

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

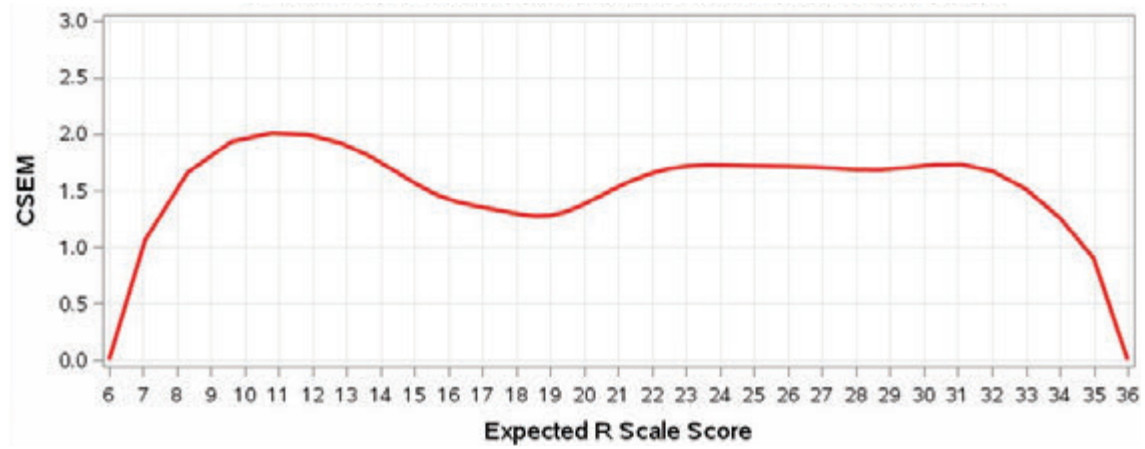


Figure A-6.14.2: Conditional standard errors of measurement for Writing and Language

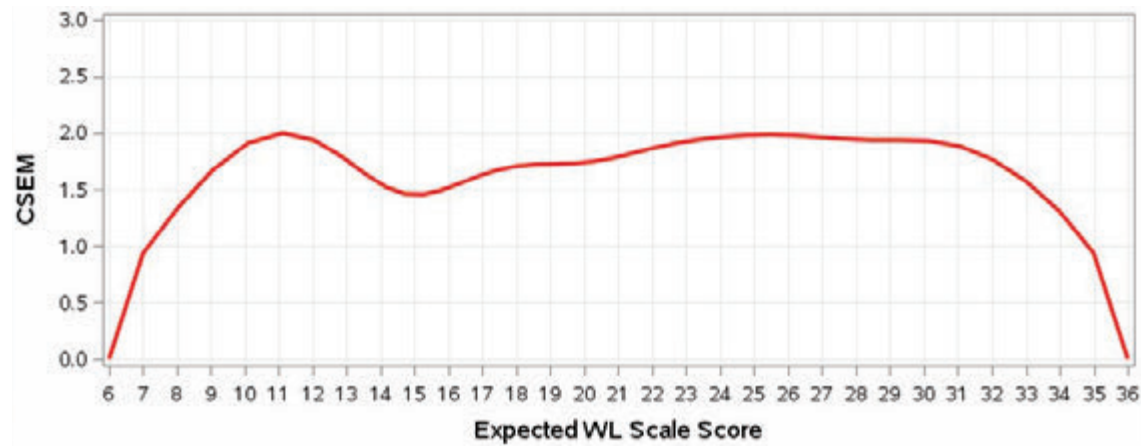


Figure A-6.14.3: Conditional standard errors of measurement for Analysis in History/Social Studies

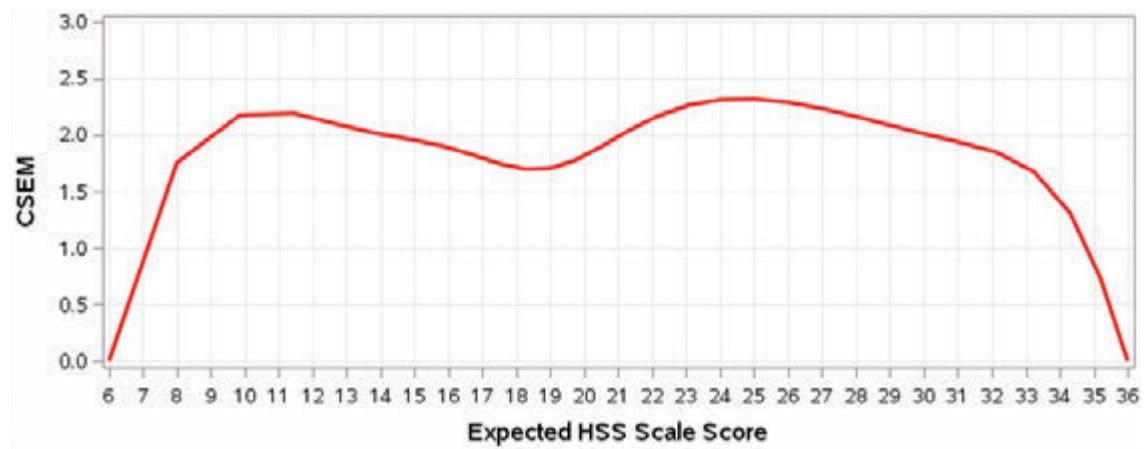


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Figure A-6.14.4: Conditional standard errors of measurement for Analysis in Science



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

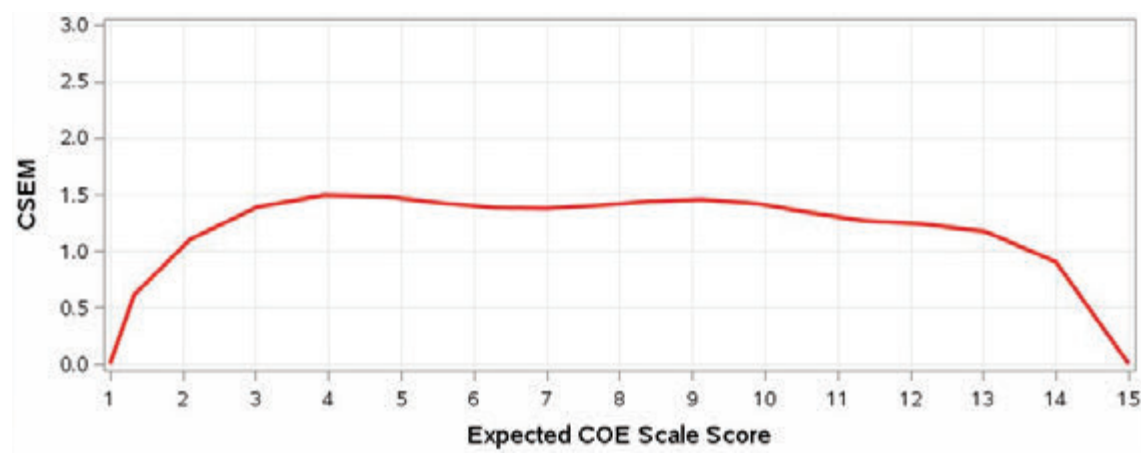


Figure A-6.14.6: Conditional standard errors of measurement for Words in Context

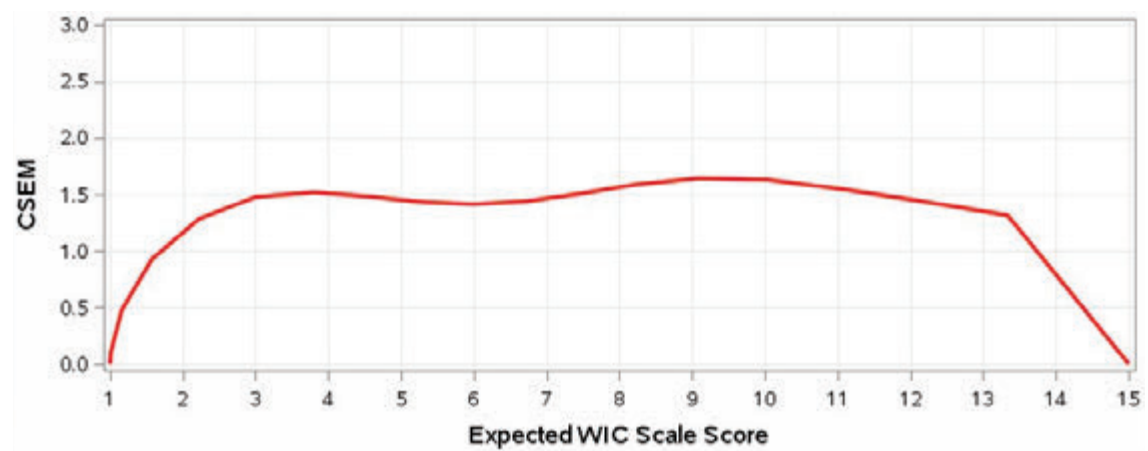


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Figure A-6.14.7: Conditional standard errors of measurement for Expression of Ideas

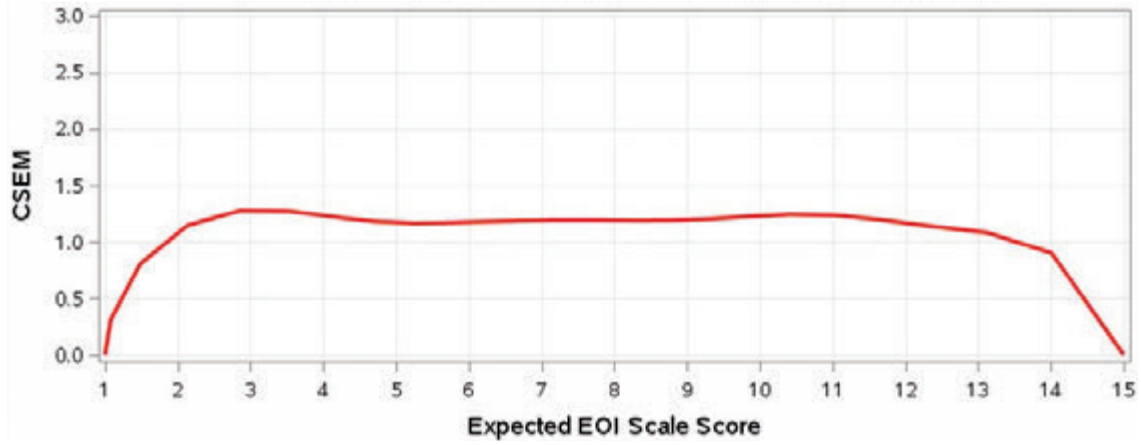


Figure A-6.14.8: Conditional standard errors of measurement for Standard English Conventions

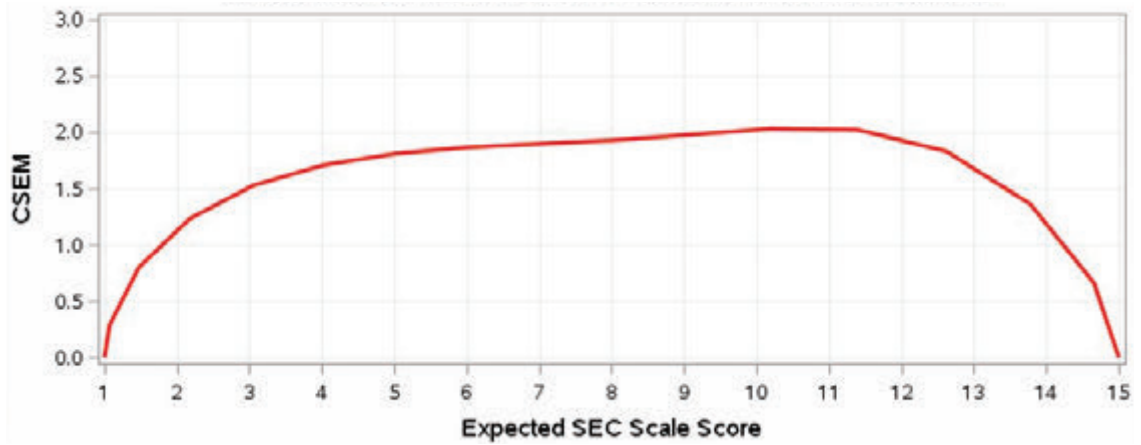


Figure A-6.14.9: Conditional standard errors of measurement for Heart of Algebra

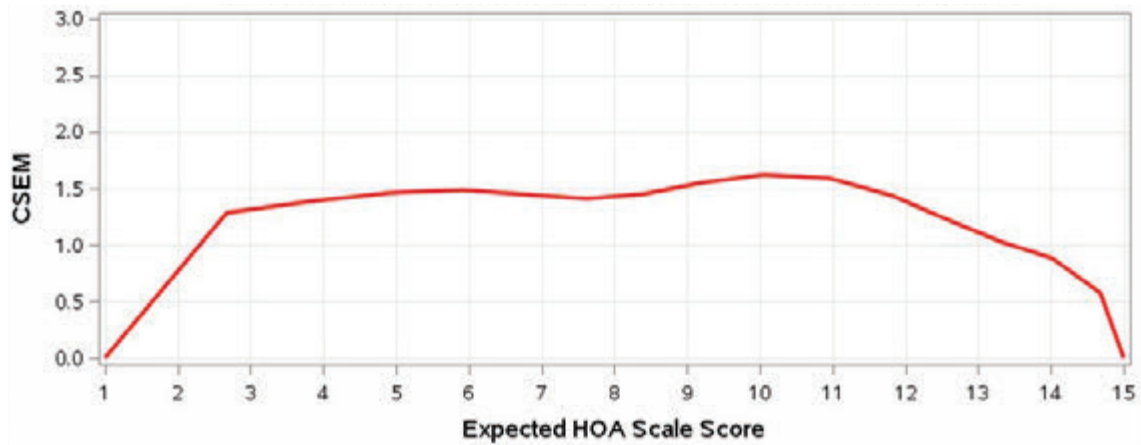


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Figure A-6.14.10: Conditional standard errors of measurement for Problem Solving and Data Analysis



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

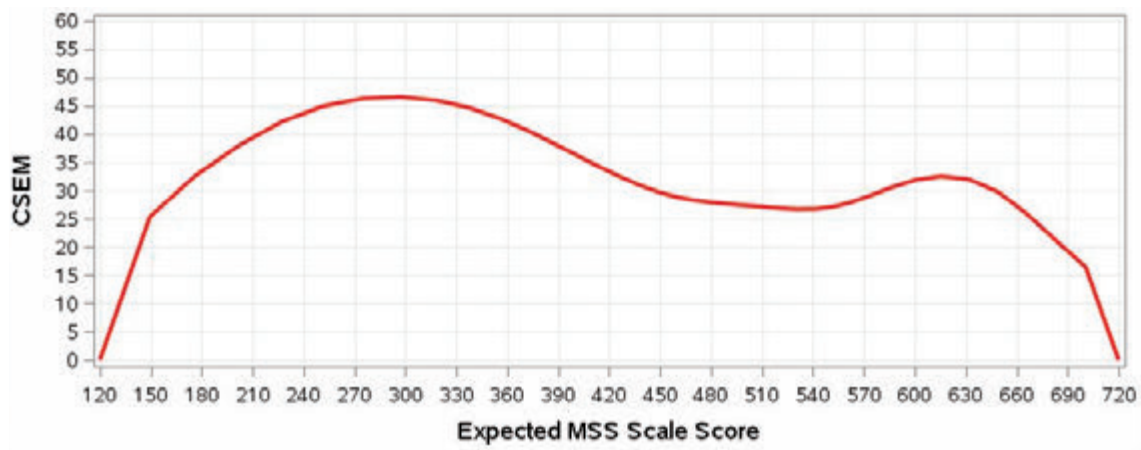




Figure A-6.15: Conditional standard errors of measurement graphs for PSAT 8/9 Form 2

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

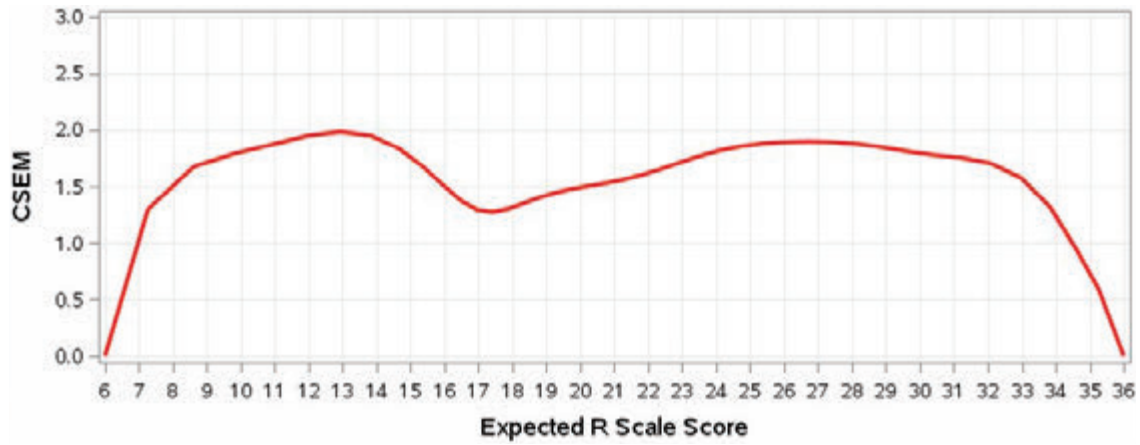


Figure A-6.15.2: Conditional standard errors of measurement for Writing and Language

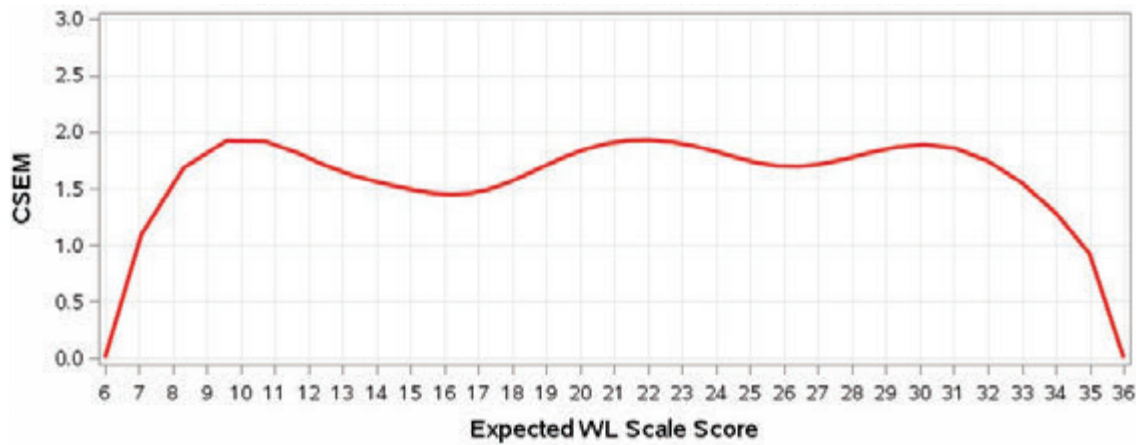


Figure A-6.15.3: Conditional standard errors of measurement for Analysis in History/Social Studies

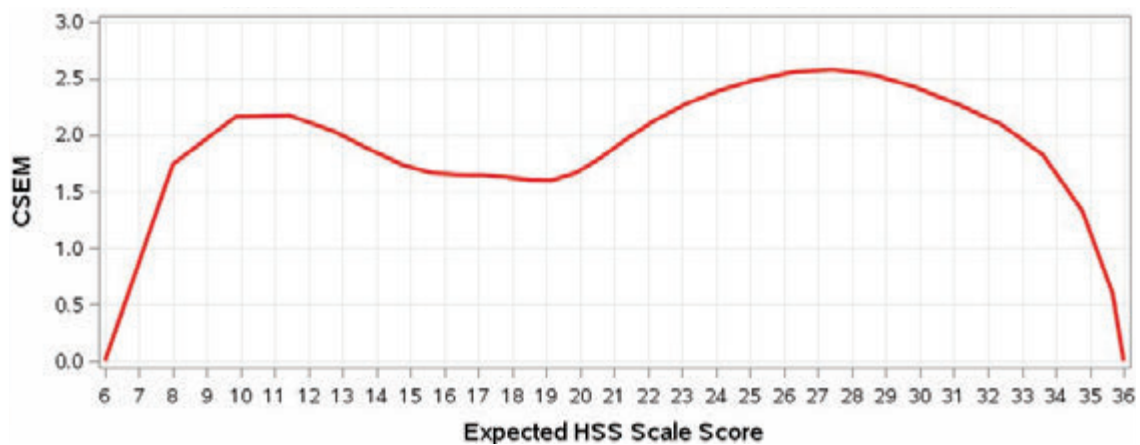


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Figure A-6.15.4: Conditional standard errors of measurement for Analysis in Science

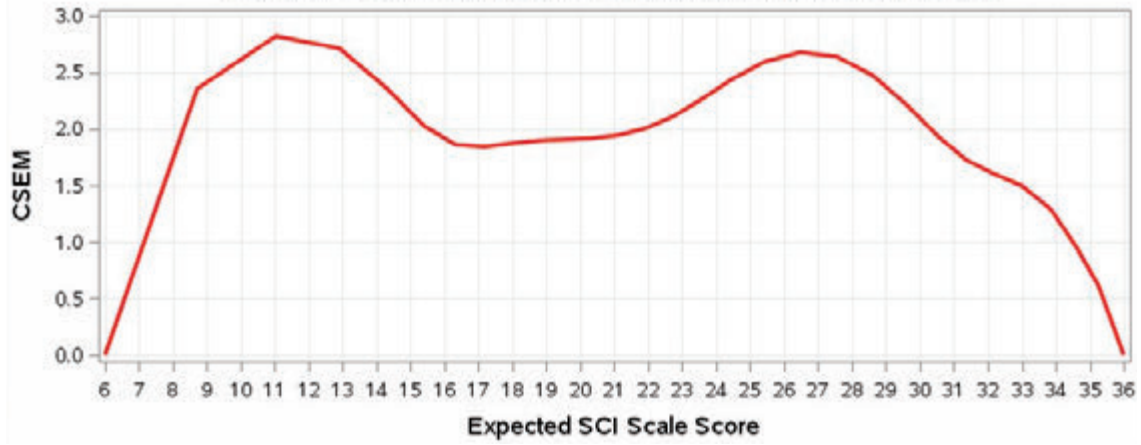


Figure A-6.15.5: Conditional standard errors of measurement for Command of Evidence

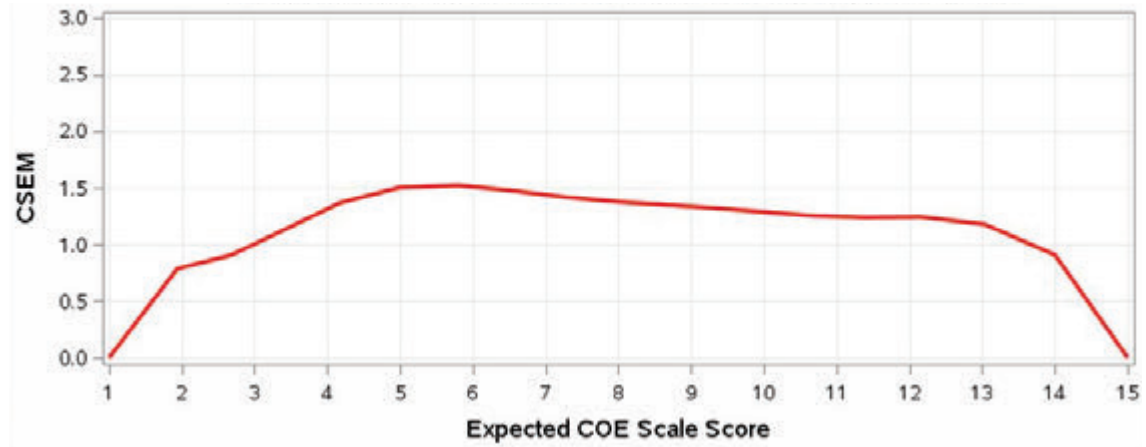


Figure A-6.15.6: Conditional standard errors of measurement for Words in Context



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

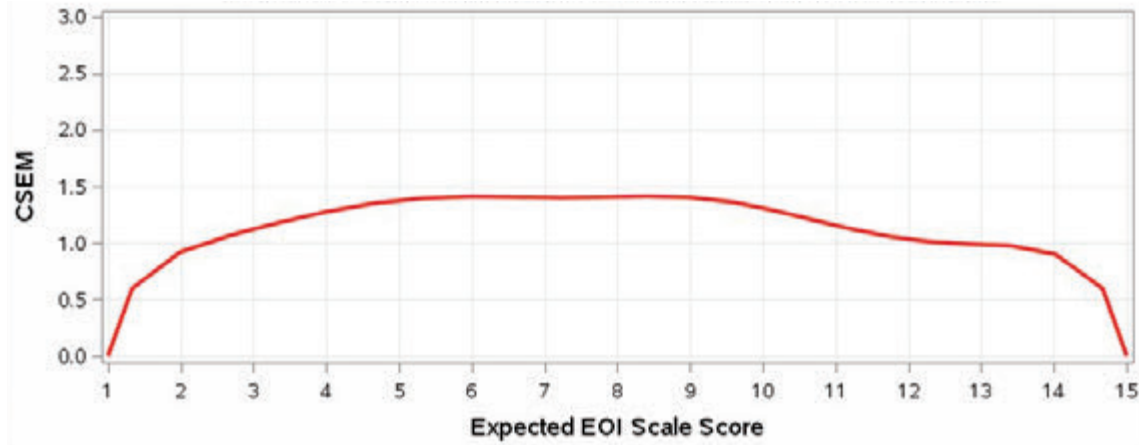


Figure A-6.15.8: Conditional standard errors of measurement for Standard English Conventions

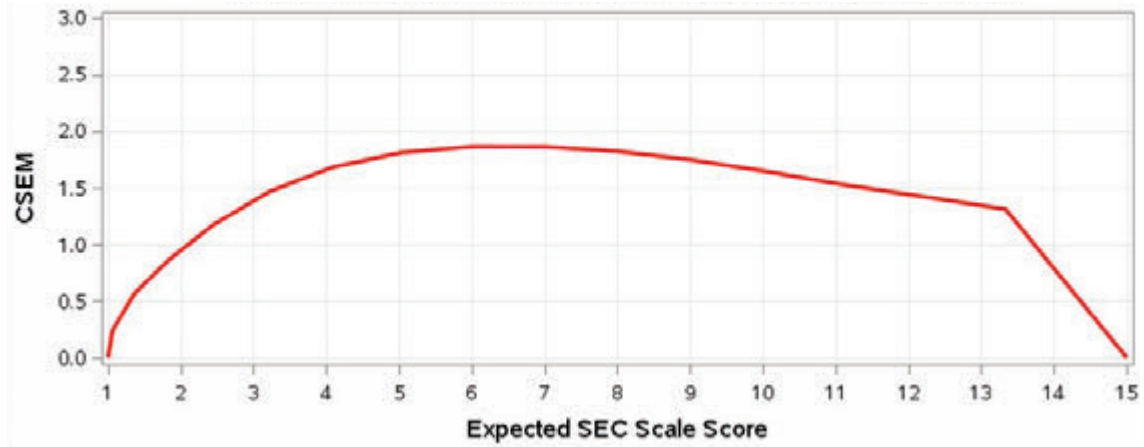


Figure A-6.15.9: Conditional standard errors of measurement for Heart of Algebra

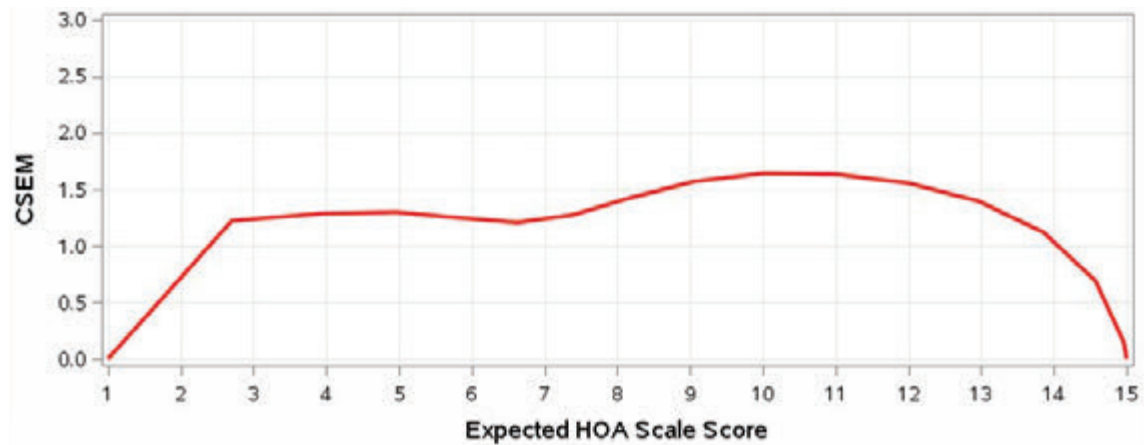


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Figure A-6.15.10: Conditional standard errors of measurement for Problem Solving and Data Analysis



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

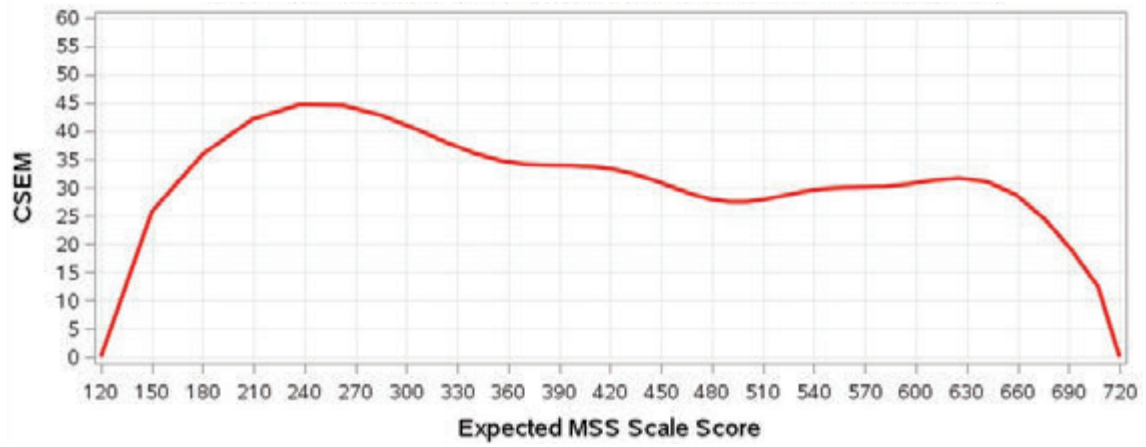


Figure A-6.16: Raw score distributions for SAT Form 1

Figure A-6.16.1: Reading Test raw score distribution

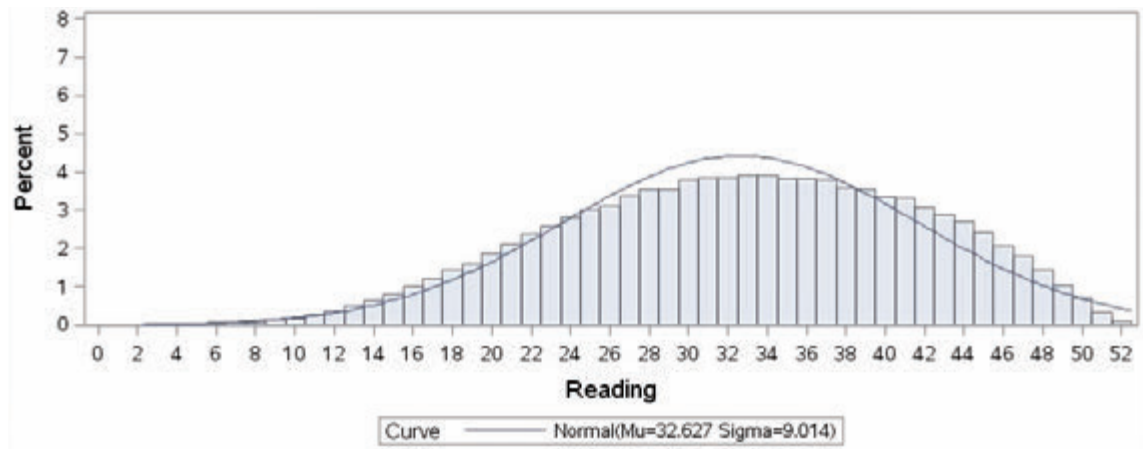


Figure A-6.16.2: Writing and Language Test raw score distribution

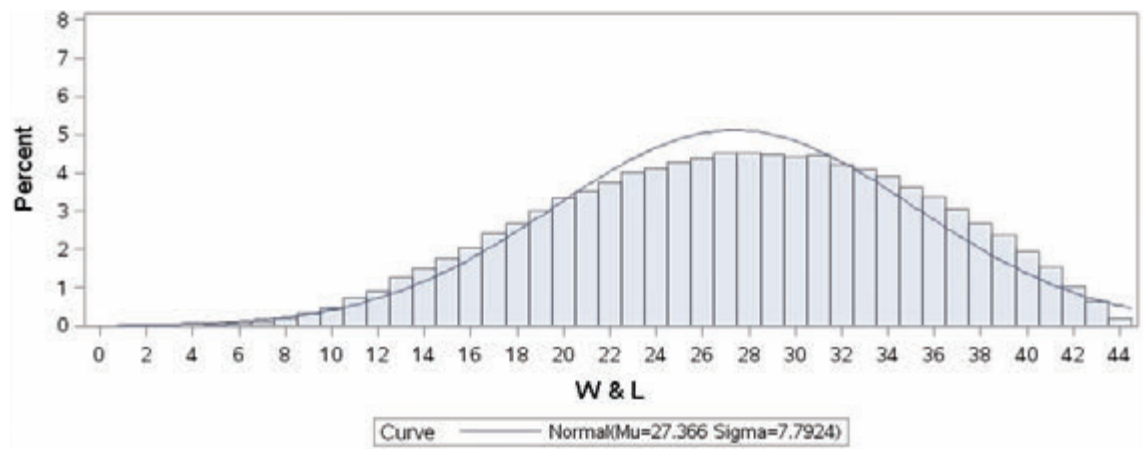


Figure A-6.16.3: Math Test raw score distribution

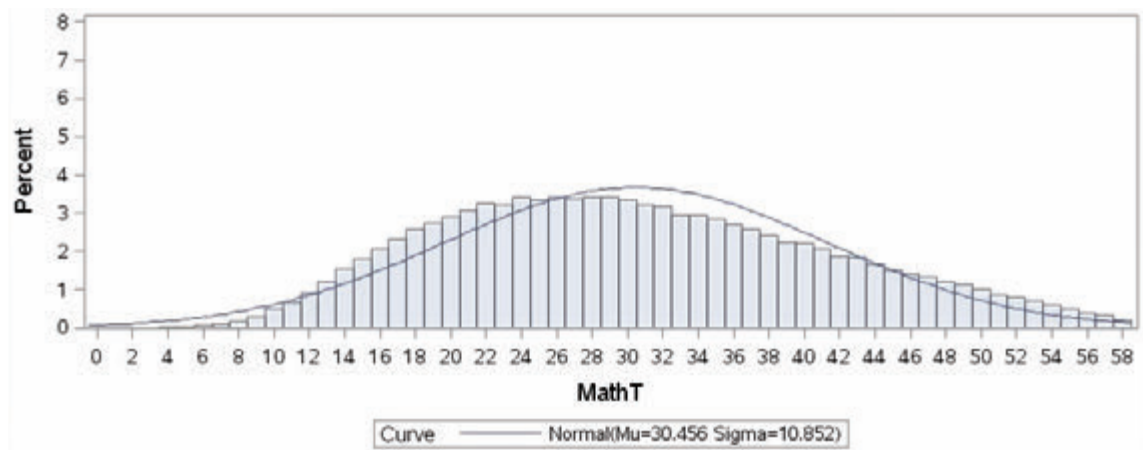


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Figure A-6.16.4: Analysis in History and Social Science raw score distribution

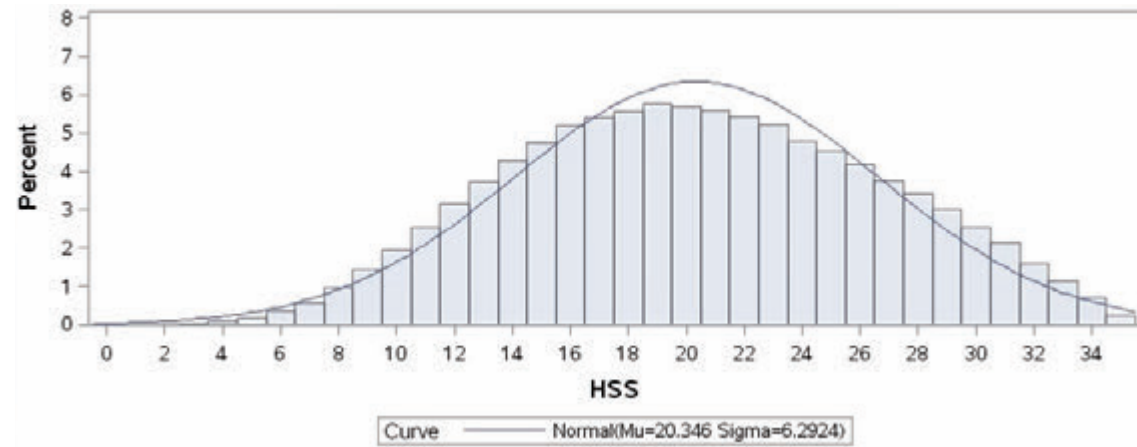


Figure A-6.16.5: Analysis in Science raw score distribution

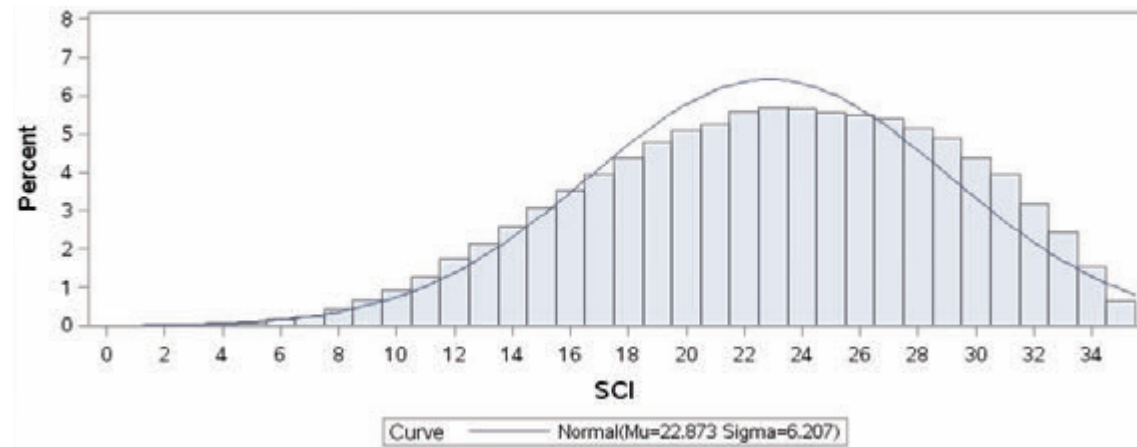


Figure A-6.16.6: Command of Evidence raw score distribution

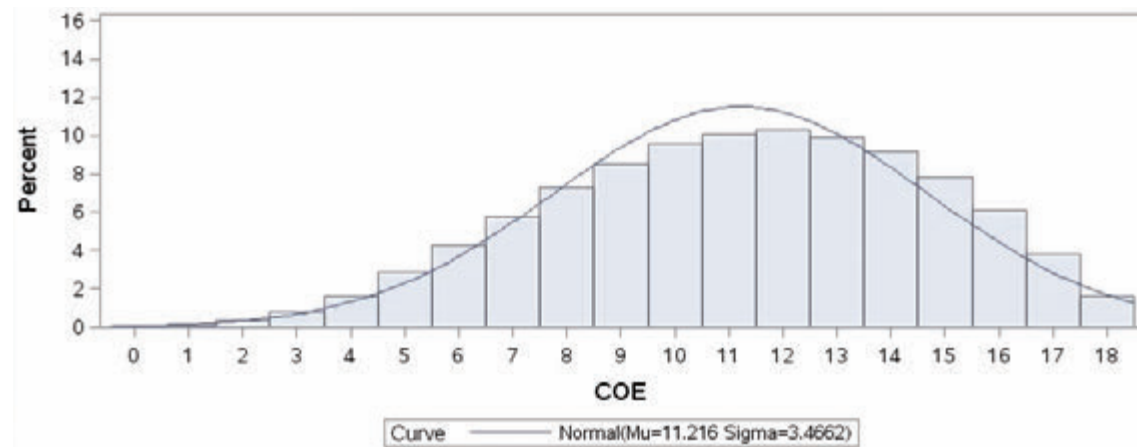


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Figure A-6.16.7: Words in Context raw score distribution

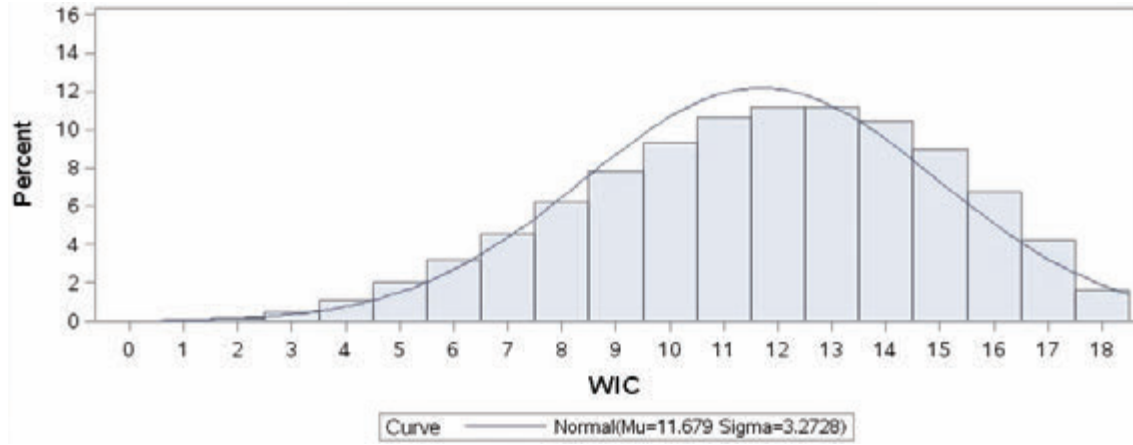


Figure A-6.16.8: Expression of Ideas raw score distribution

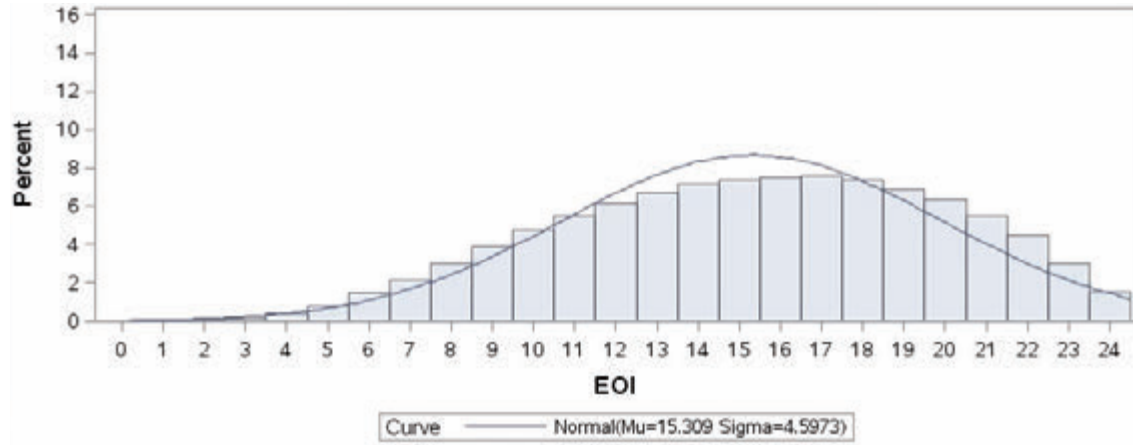


Figure A-6.16.9: Standard English Conventions raw score distribution

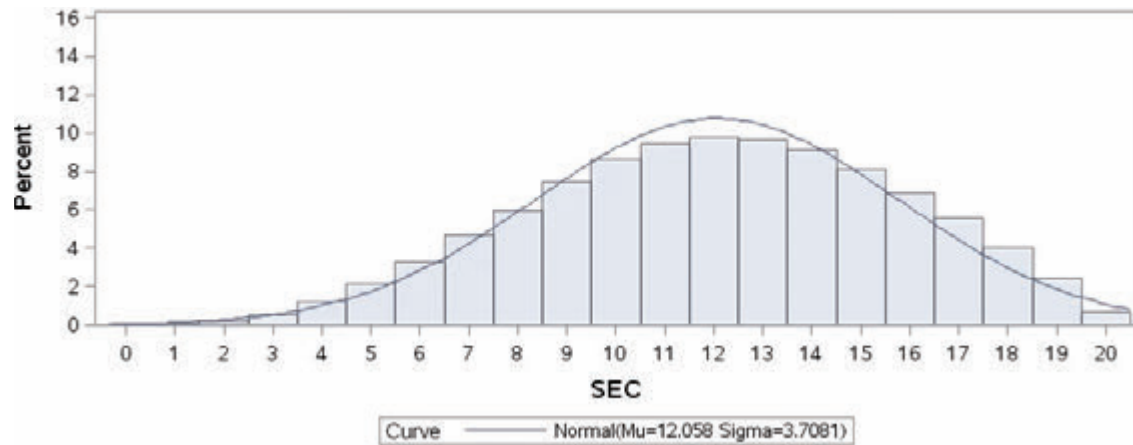


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Figure A-6.16.10: Heart of Algebra raw score distribution

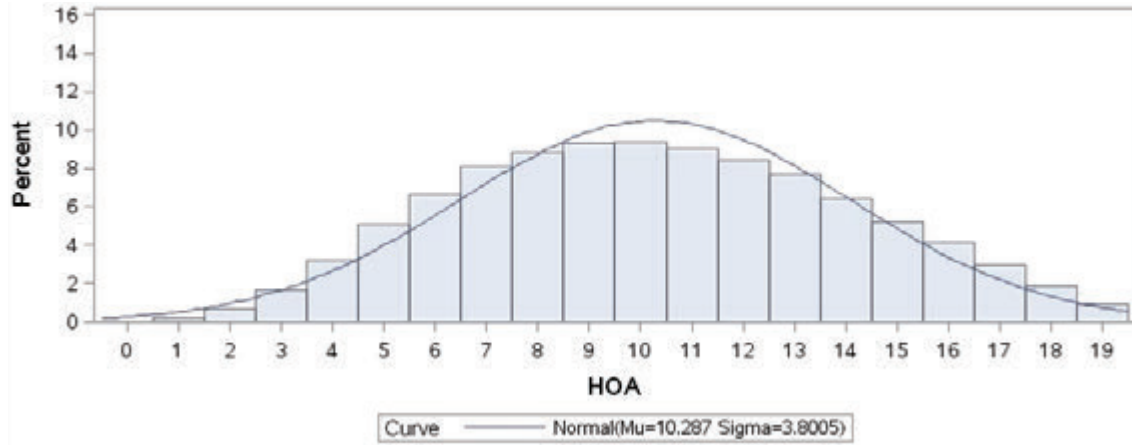


Figure A-6.16.11: Problem Solving and Data Analysis raw score distribution

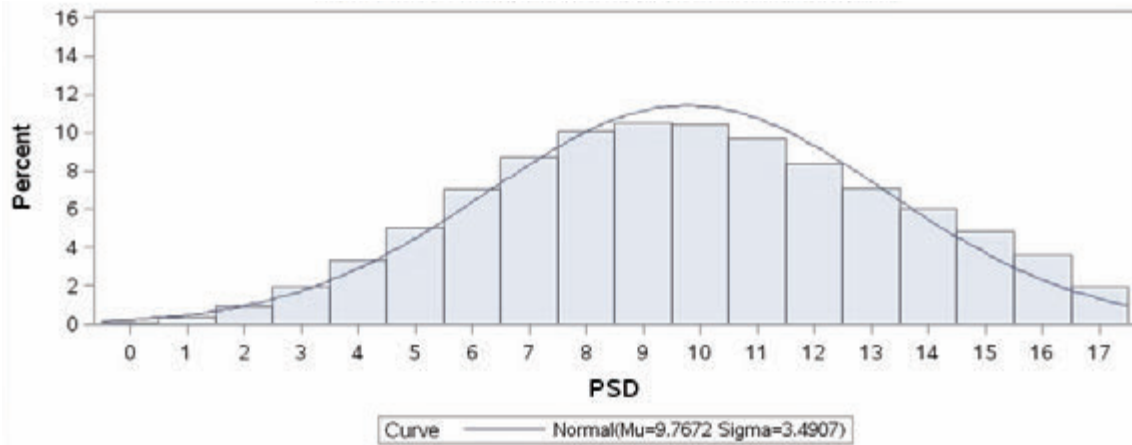


Figure A-6.16.12: Passport to Advanced Math raw score distribution

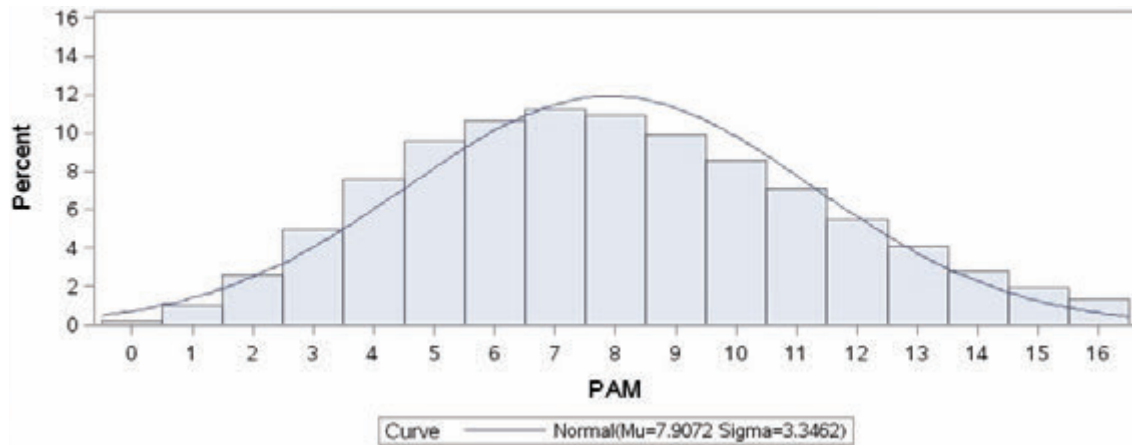




Figure A-6.17: Raw score distributions for SAT Form 2

Figure A-6.17.1: Reading Test raw score distribution

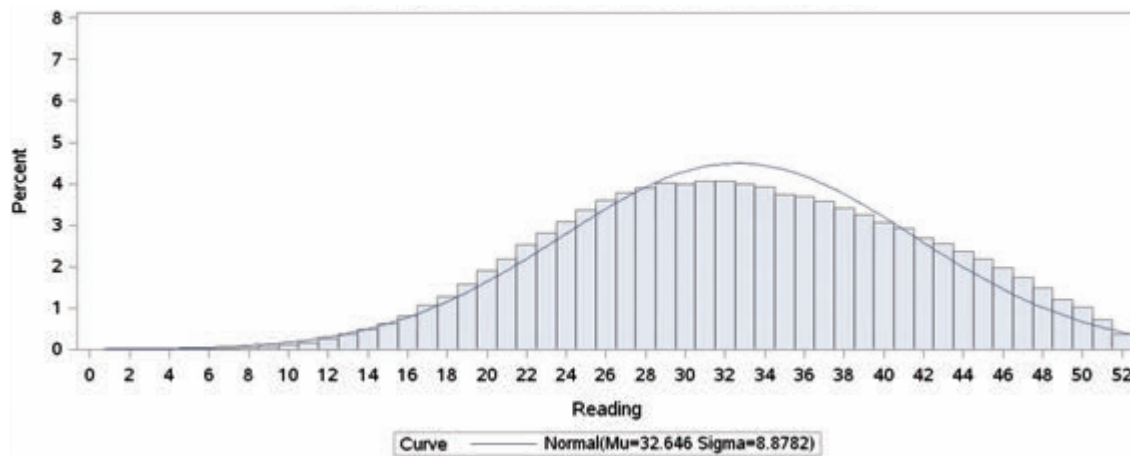


Figure A-6.17.2: Writing and Language Test raw score distribution

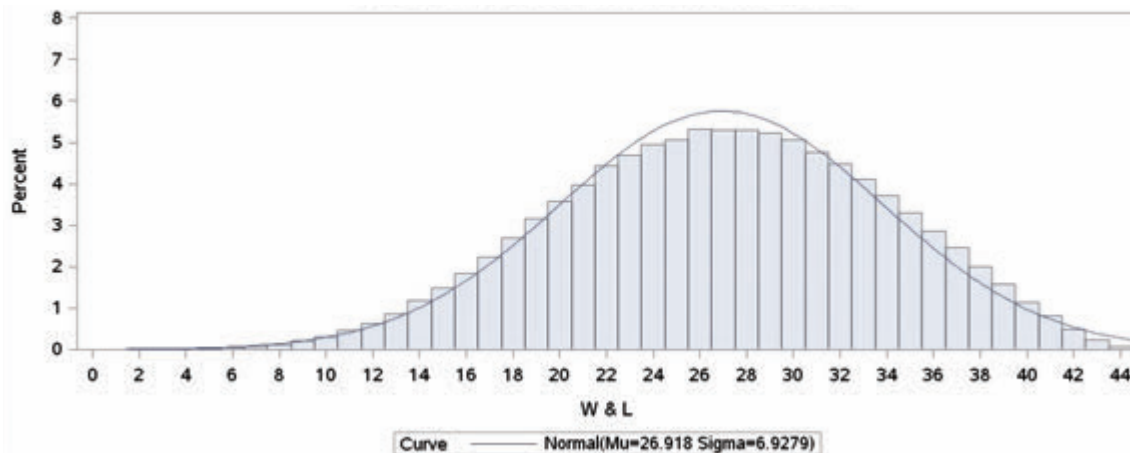


Figure A-6.17.3: Math Test raw score distribution

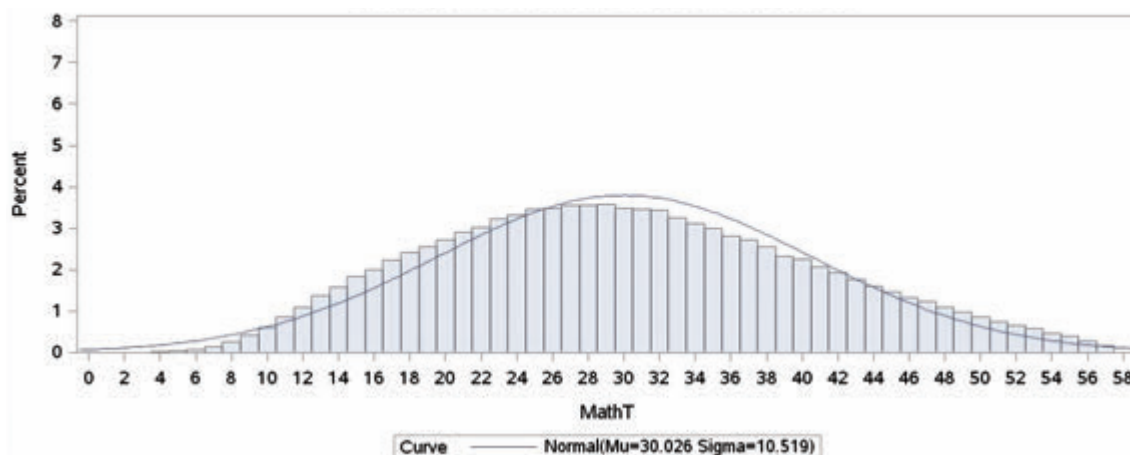


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Figure A-6.17.4: Analysis in History and Social Science raw score distribution

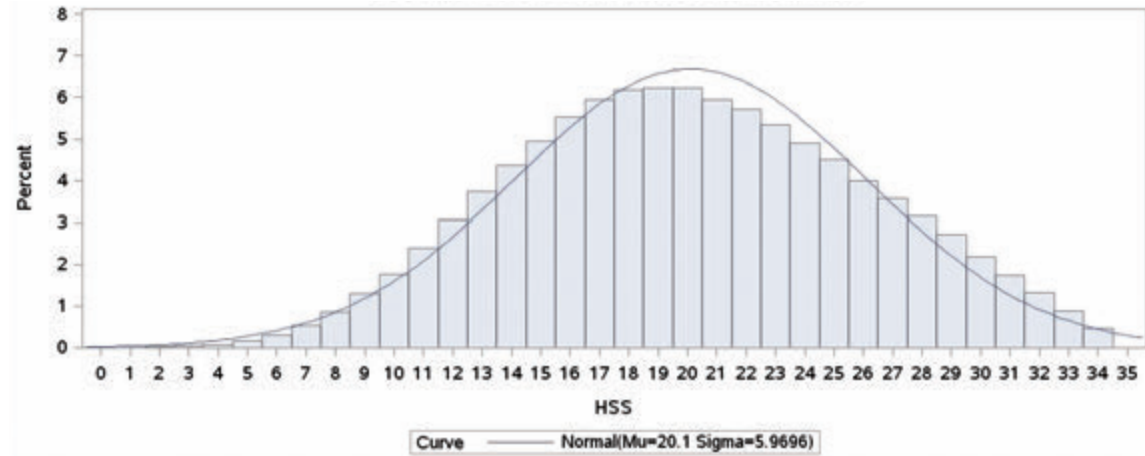


Figure A-6.17.5: Analysis in Science raw score distribution

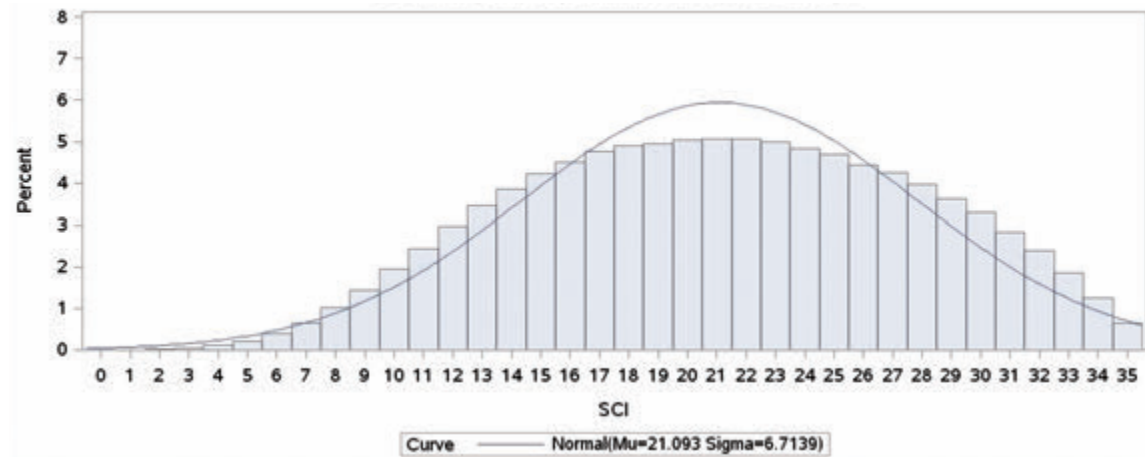


Figure A-6.17.6: Command of Evidence raw score distribution

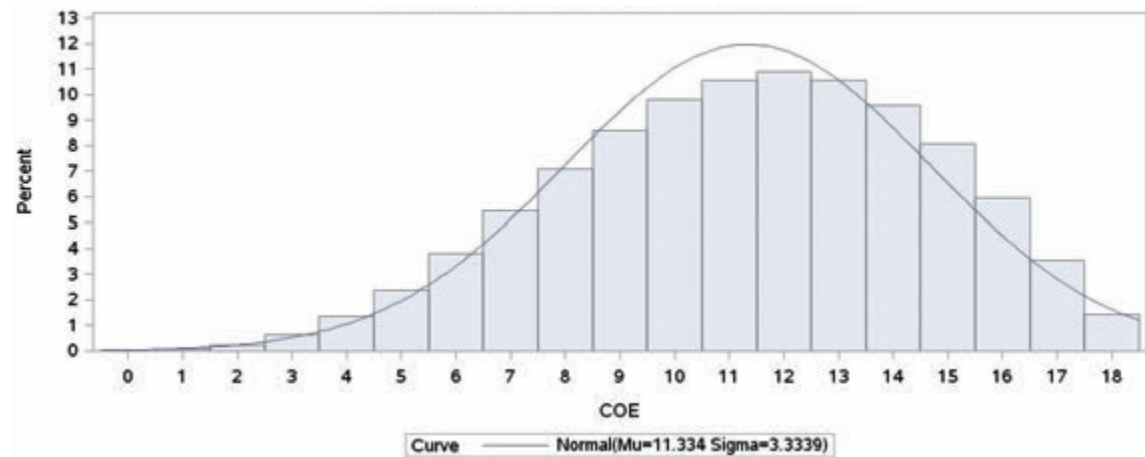


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Figure A-6.17.7: Words in Context raw score distribution

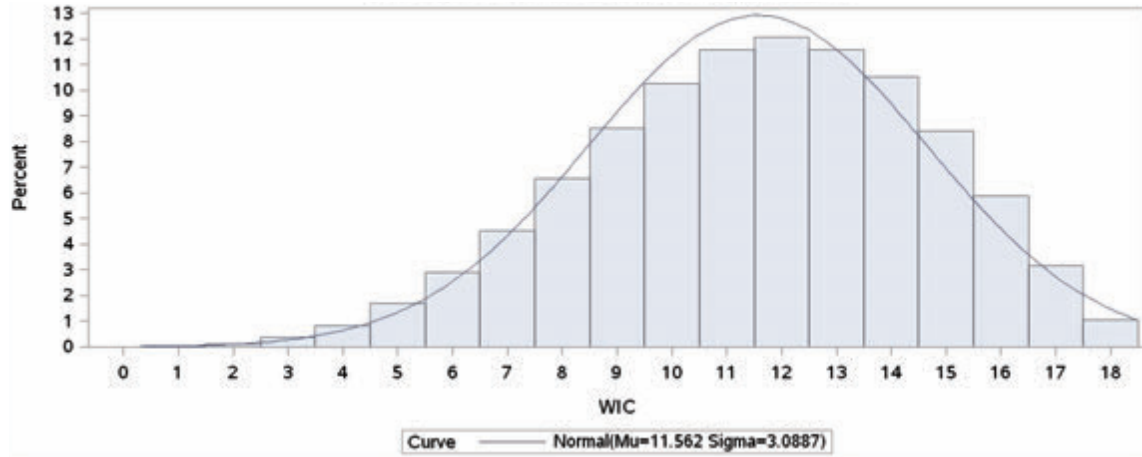


Figure A-6.17.8: Expression of Ideas raw score distribution

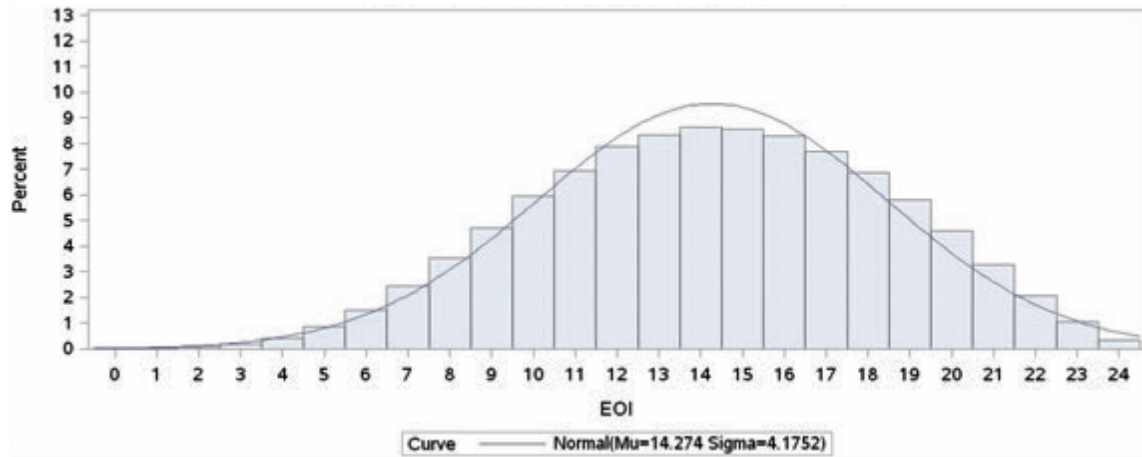


Figure A-6.17.9: Standard English Conventions raw score distribution

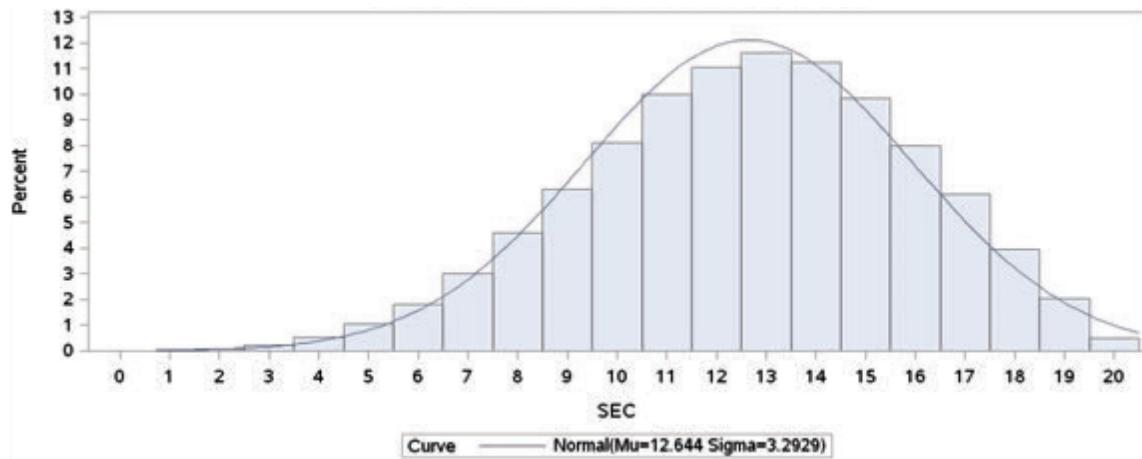


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Figure A-6.17 continued from previous page

Figure A-6.17.10: Heart of Algebra raw score distribution

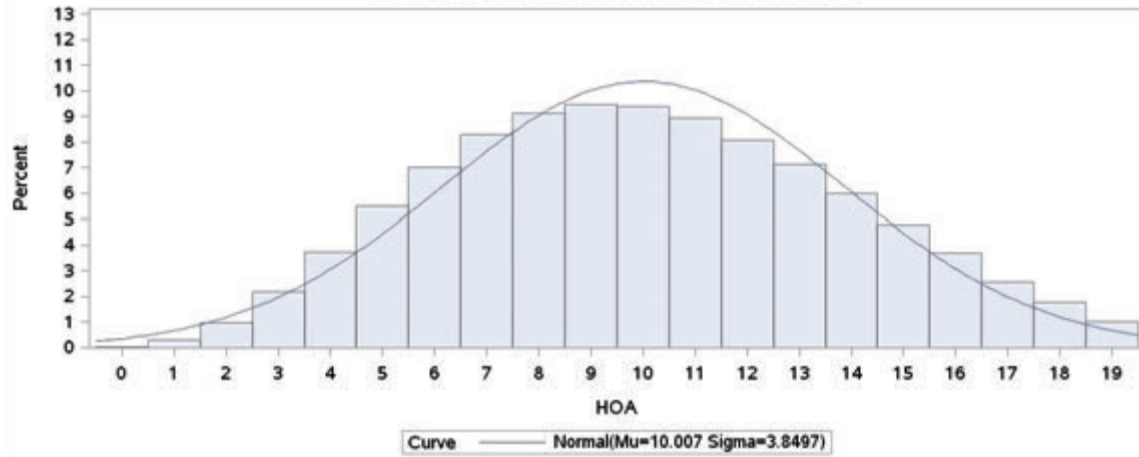


Figure A-6.17.11: Problem Solving and Data Analysis raw score distribution

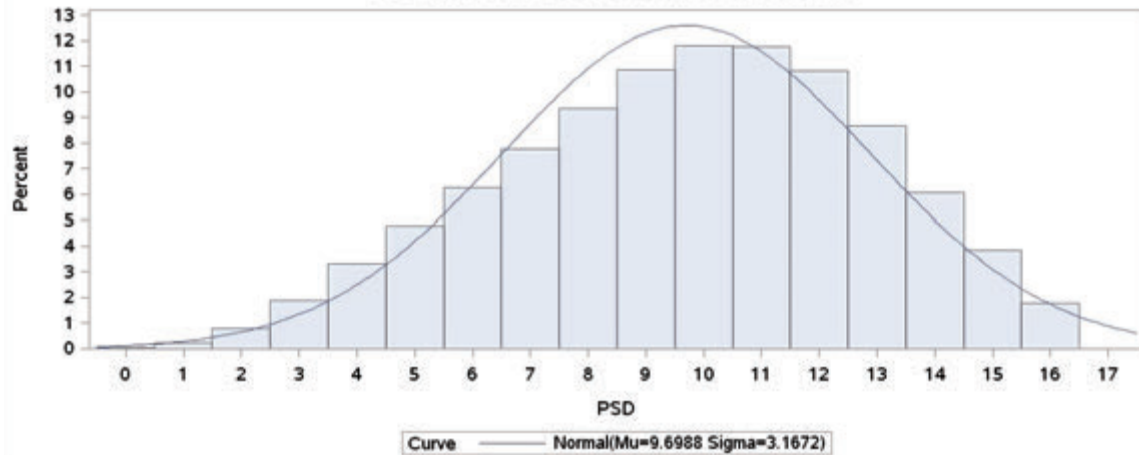


Figure A-6.17.12: Passport to Advanced Math raw score distribution

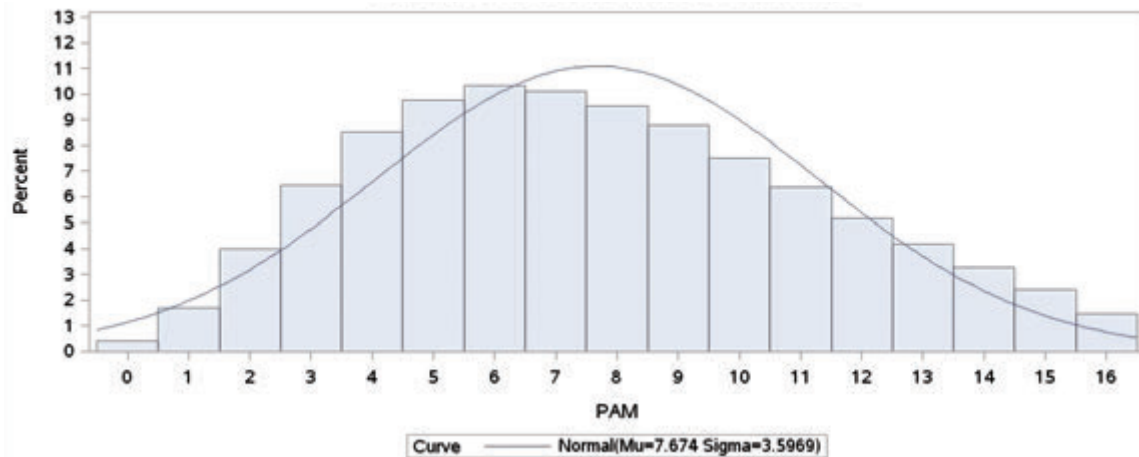


Figure A-6.18: Raw score distributions for SAT Form 3

Figure A-6.18.1: Reading Test raw score distribution

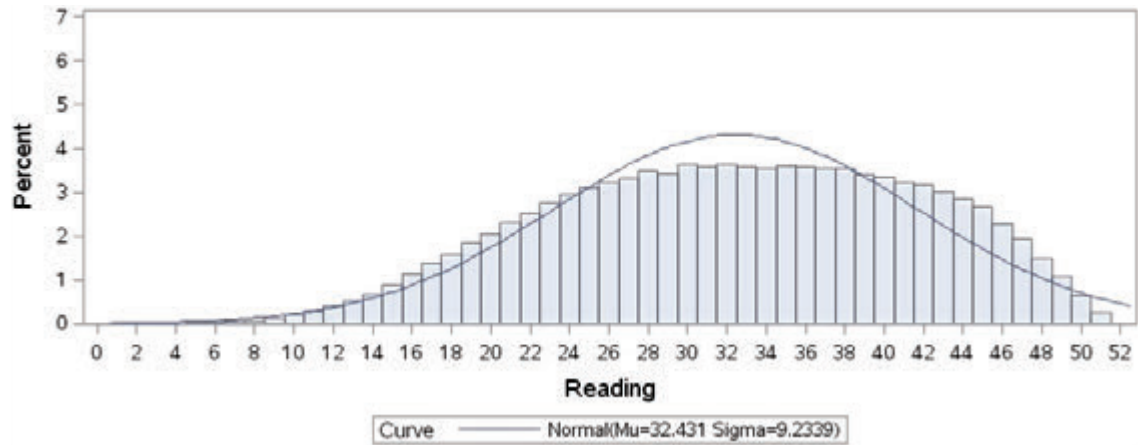


Figure A-6.18.2: Writing and Language Test raw score distribution

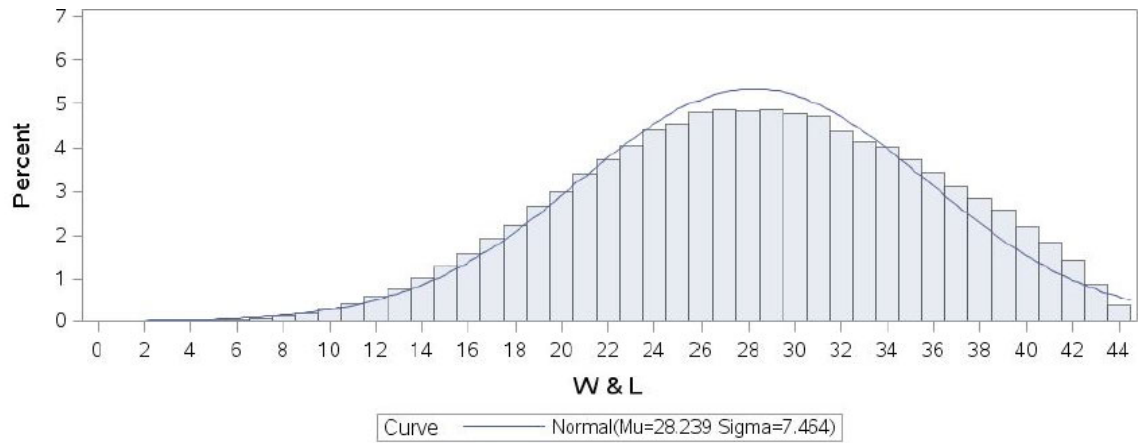


Figure A-6.18.3: Math Test raw score distribution

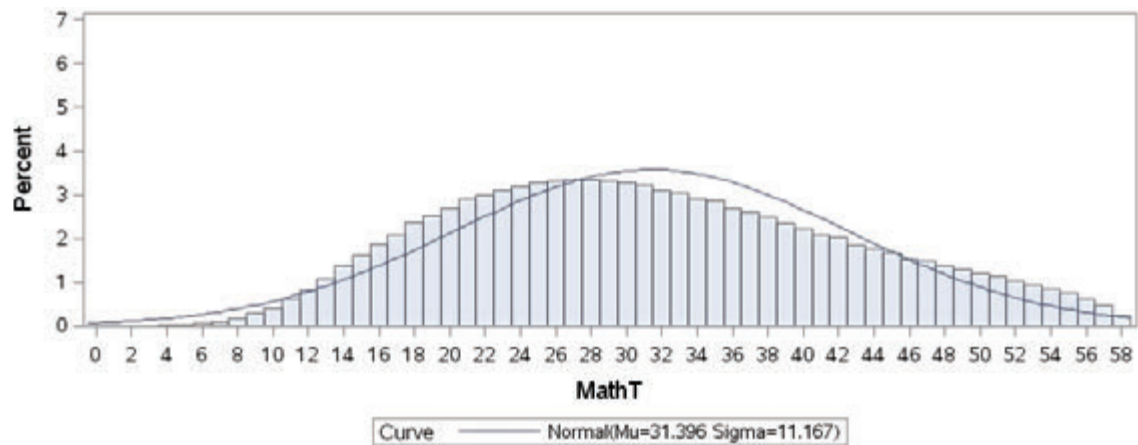


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Figure A-6.18.4: Analysis in History and Social Science raw score distribution

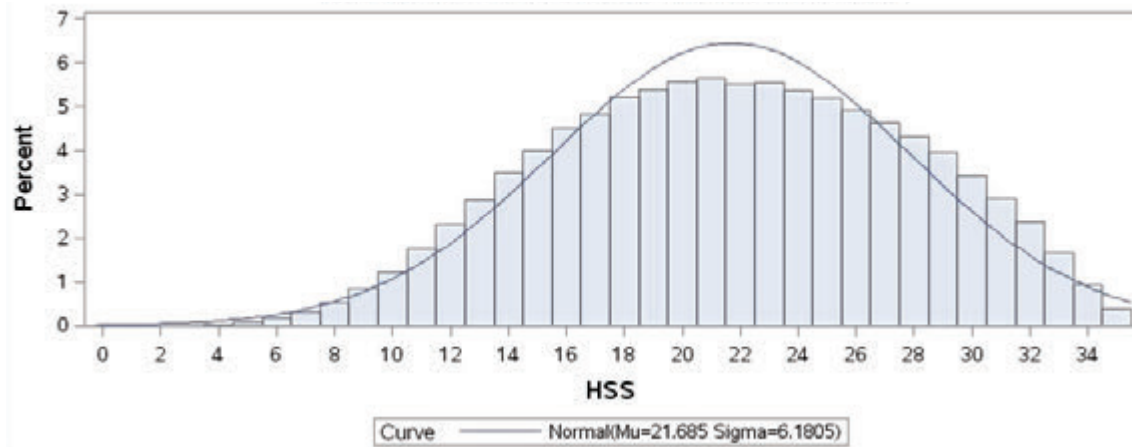


Figure A-6.18.5: Analysis in Science raw score distribution

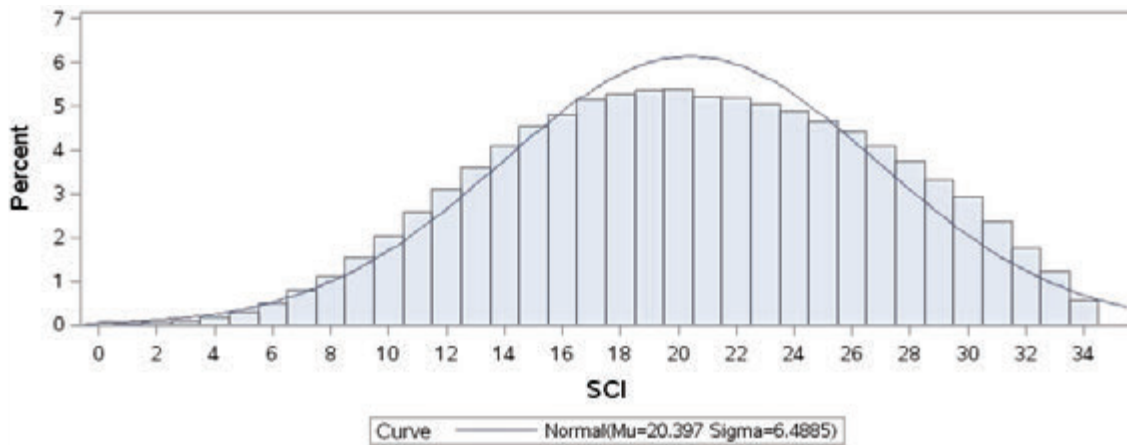


Figure A-6.18.6: Command of Evidence raw score distribution

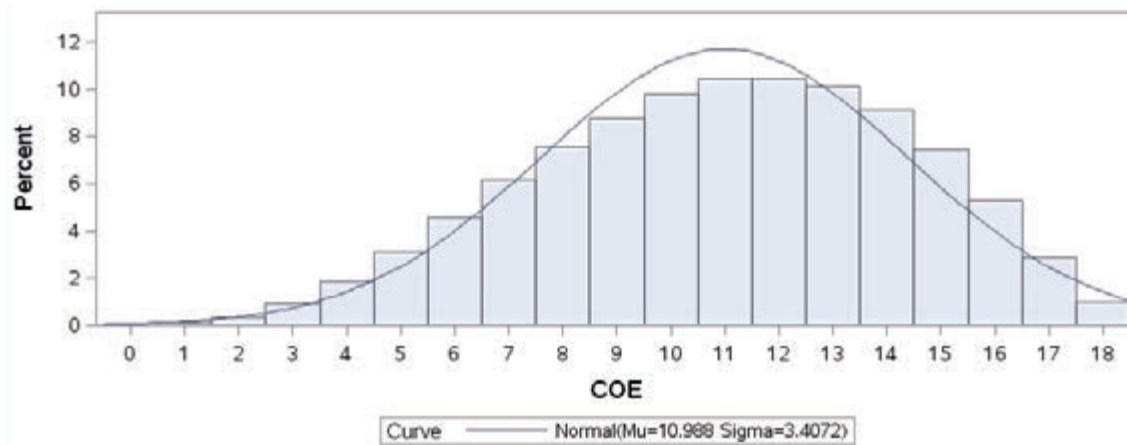


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Figure A-6.18.7: Words in Context raw score distribution

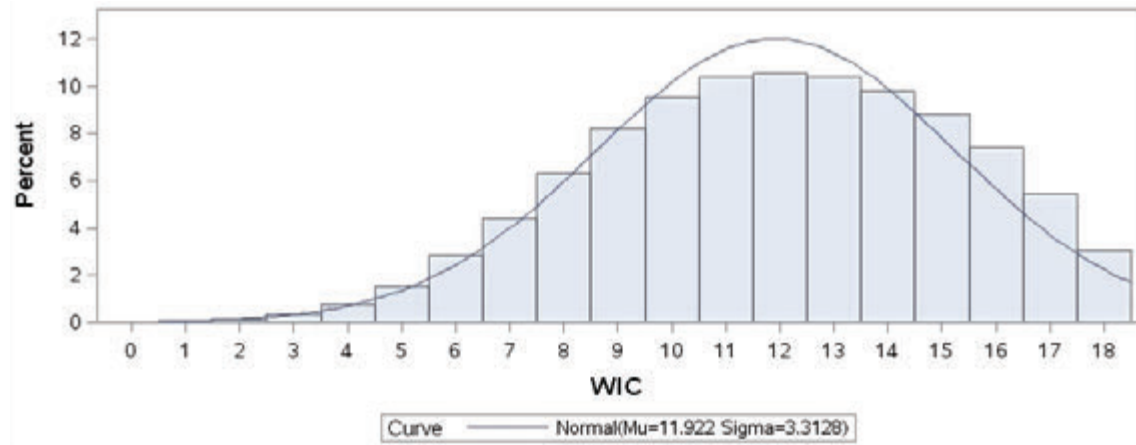


Figure A-6.18.8: Expression of Ideas raw score distribution

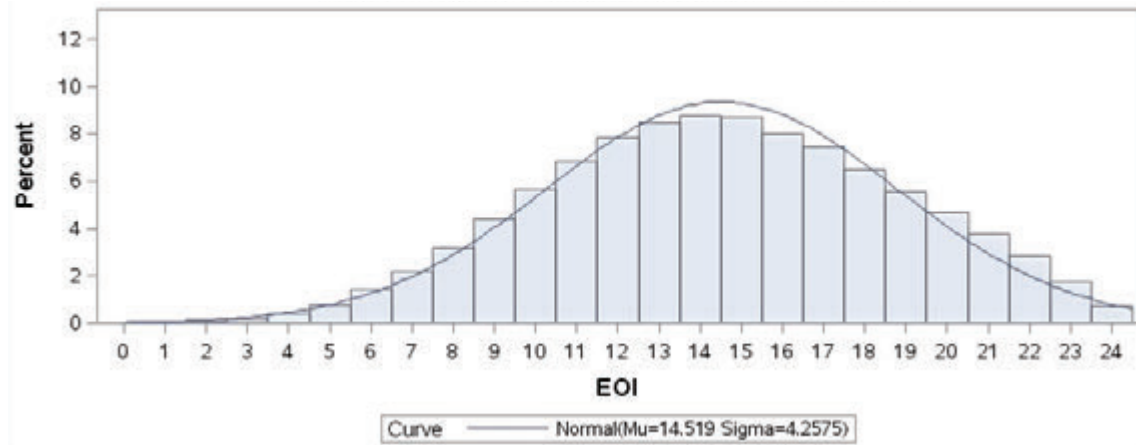


Figure A-6.18.9: Standard English Conventions raw score distribution

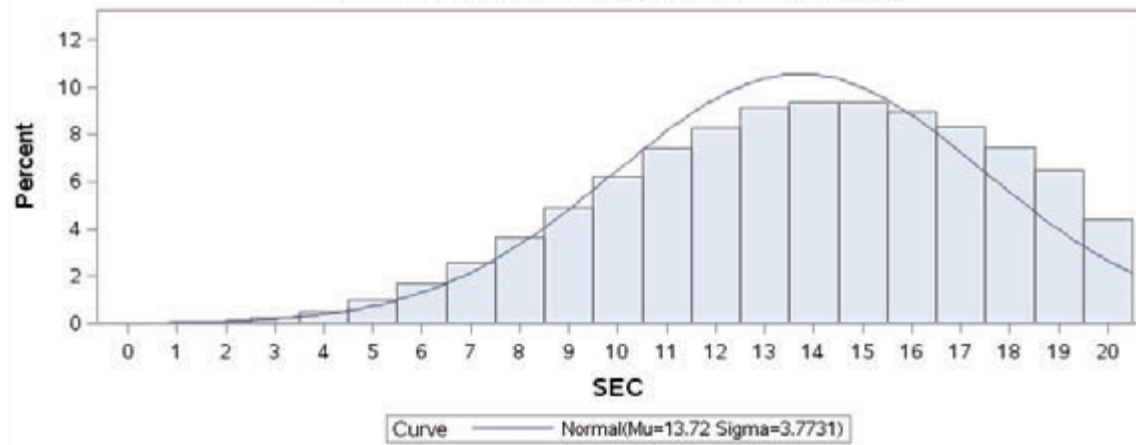


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Figure A-6.18.10: Heart of Algebra raw score distribution

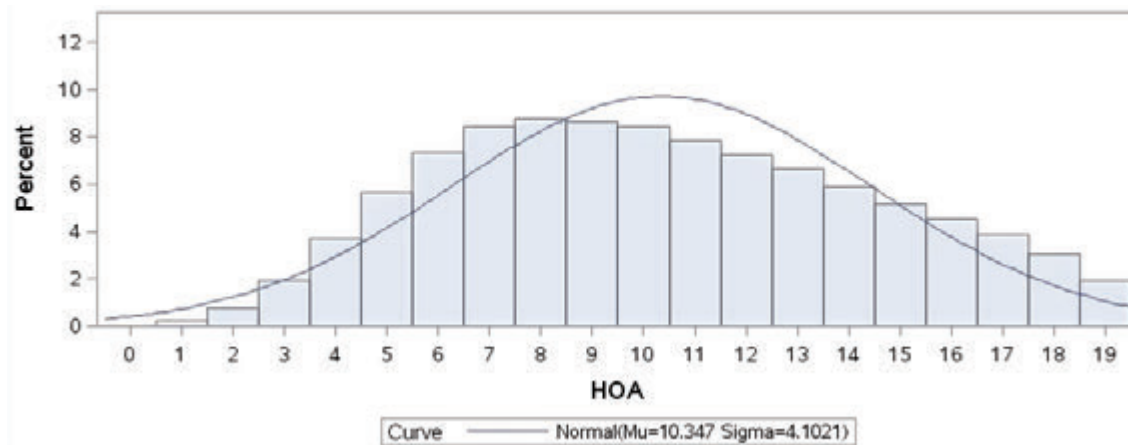


Figure A-6.18.11: Problem Solving and Data Analysis raw score distribution

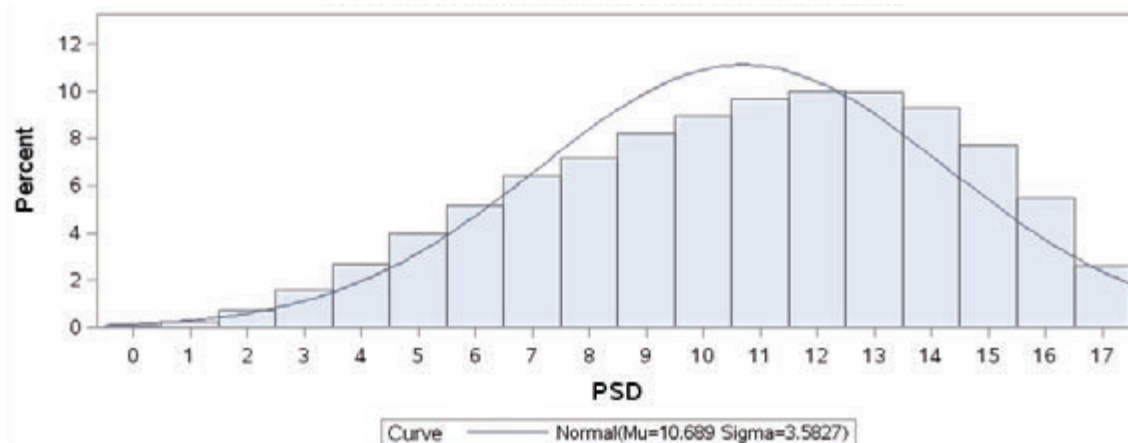


Figure A-6.18.12: Passport to Advanced Math raw score distribution

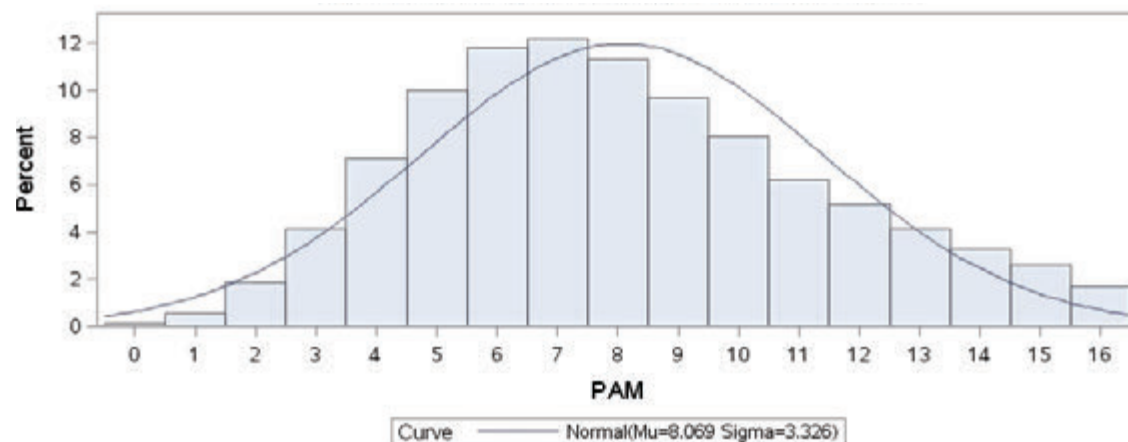




Figure A-6.19: Raw score distributions for PSAT/NMSQT and PSAT 10 Form 1

Figure A-6.19.1: Reading Test raw score distribution

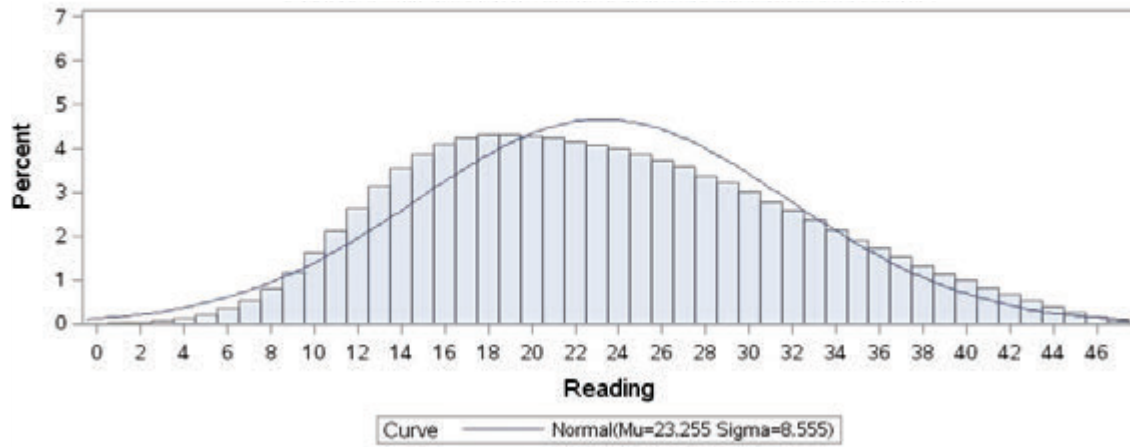


Figure A-6.19.2: Writing and Language Test raw score distribution

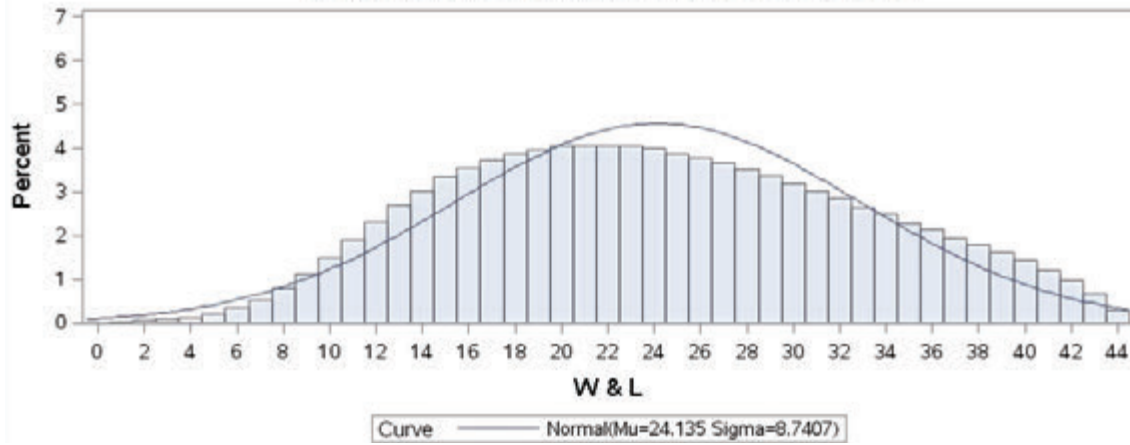


Figure A-6.19.3: Math Test raw score distribution

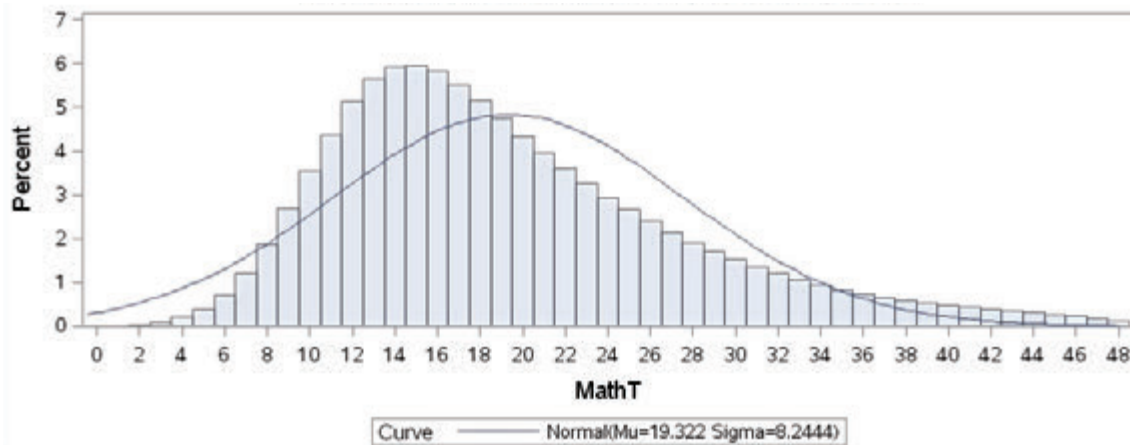


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Figure A-6.19.4: Analysis in History and Social Science raw score distribution

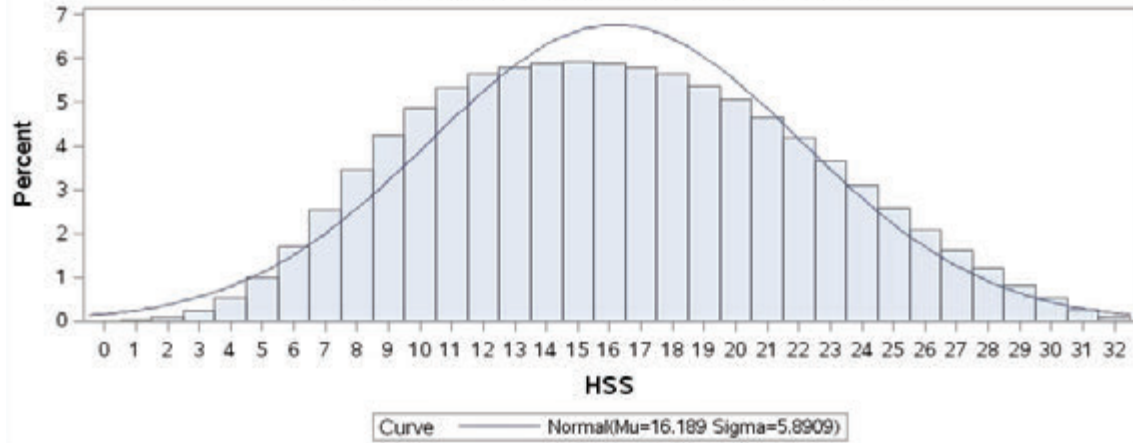


Figure A-6.19.5: Analysis in Science raw score distribution

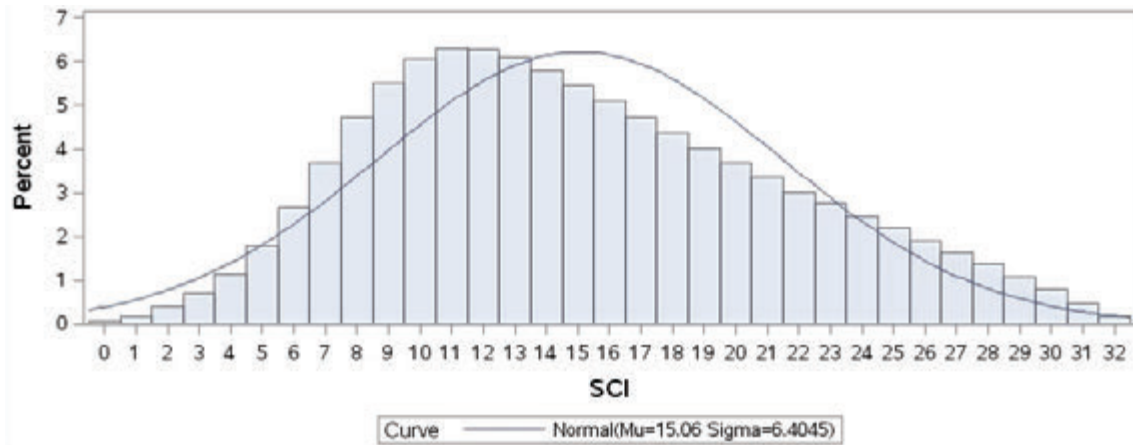


Figure A-6.19.6: Command of Evidence raw score distribution

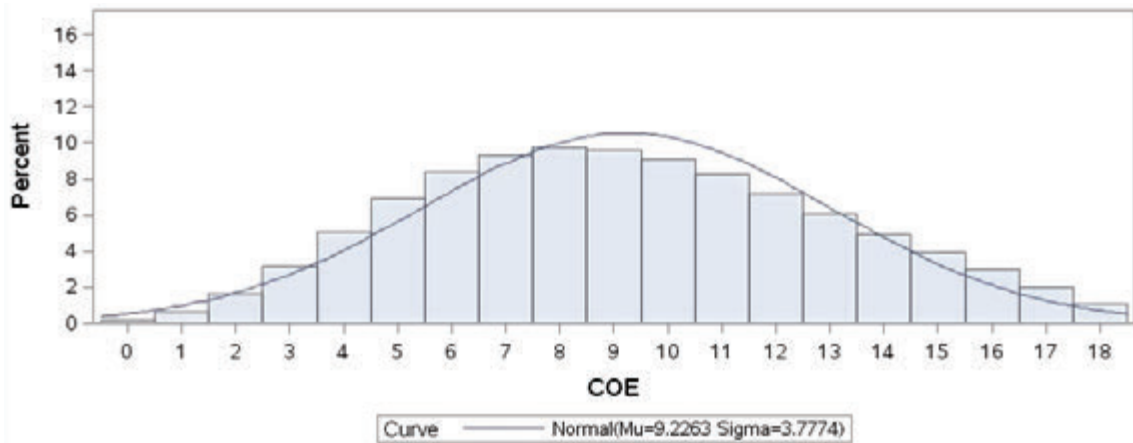


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Figure A-6.19.7: Words in Context raw score distribution

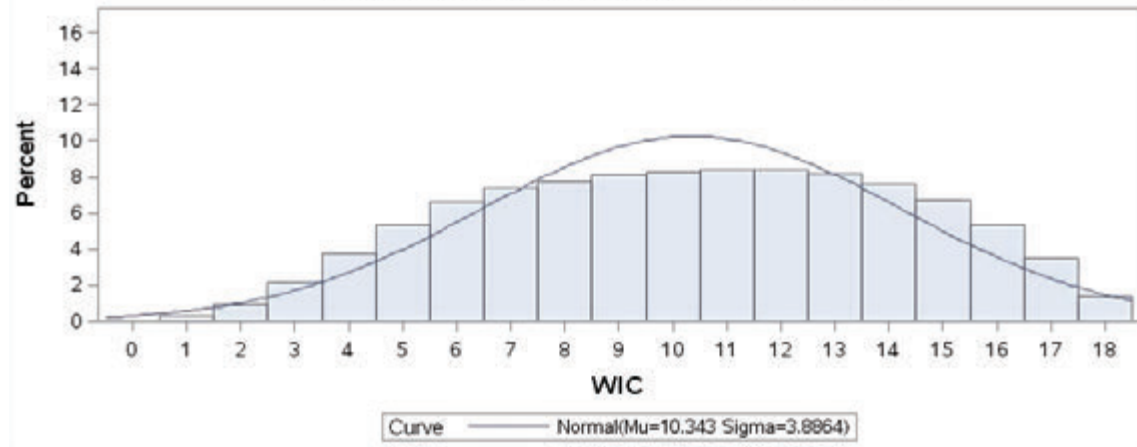


Figure A-6.19.8: Expression of Ideas raw score distribution

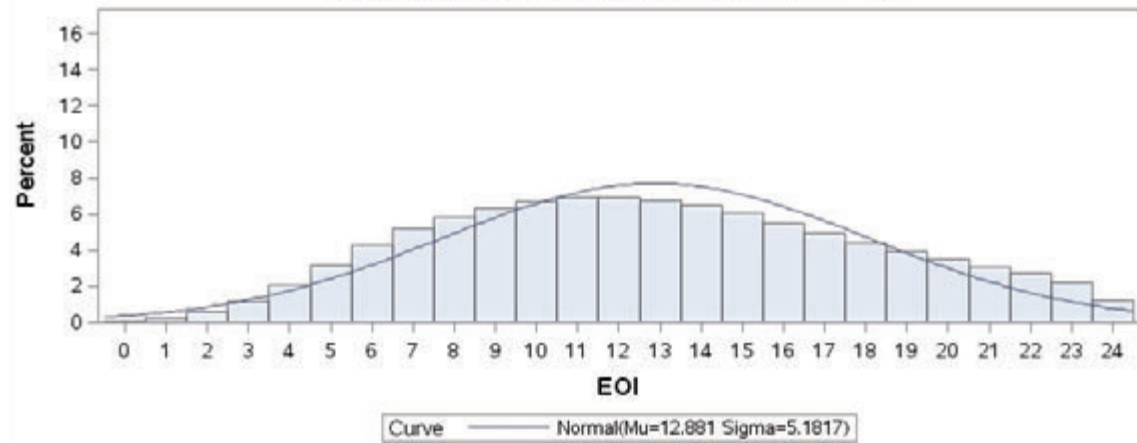


Figure A-6.19.9: Standard English Conventions raw score distribution

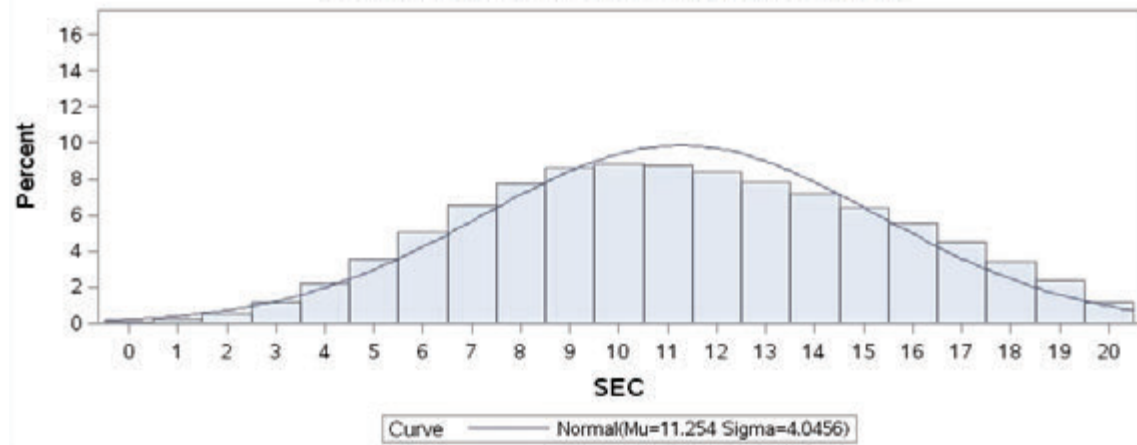


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Figure A-6.19.10: Heart of Algebra raw score distribution

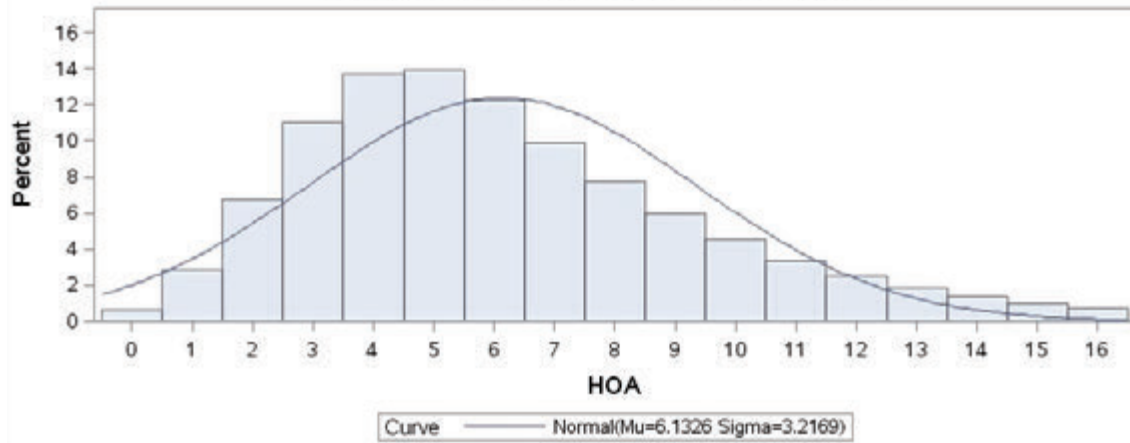


Figure A-6.19.11: Problem Solving and Data Analysis raw score distribution

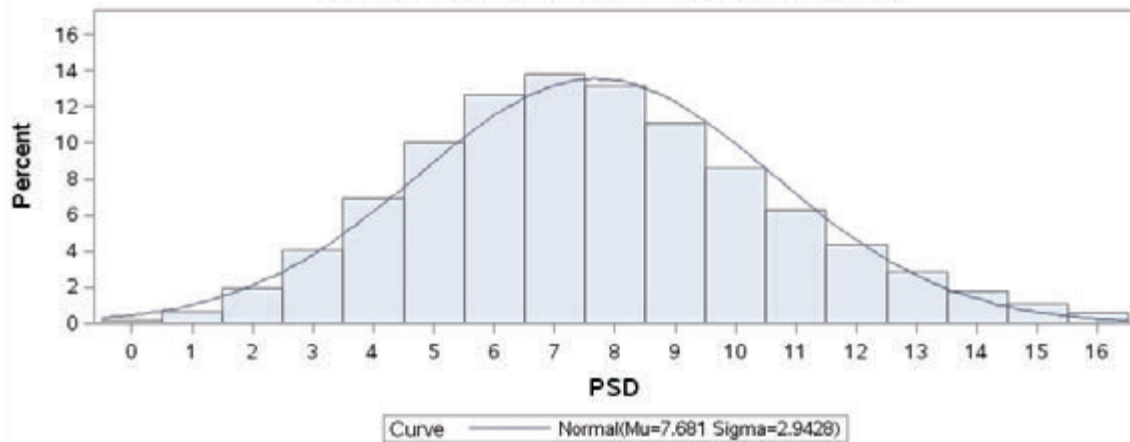


Figure A-6.19.12: Passport to Advanced Math raw score distribution

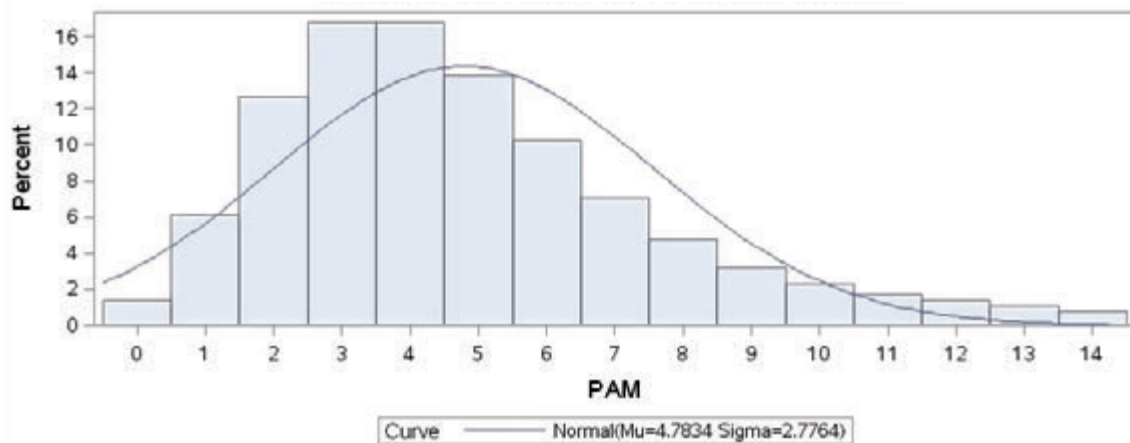


Figure A-6.20: Raw score distributions for PSAT/NMSQT and PSAT 10 Form 2

Figure A-6.20.1: Reading Test raw score distribution

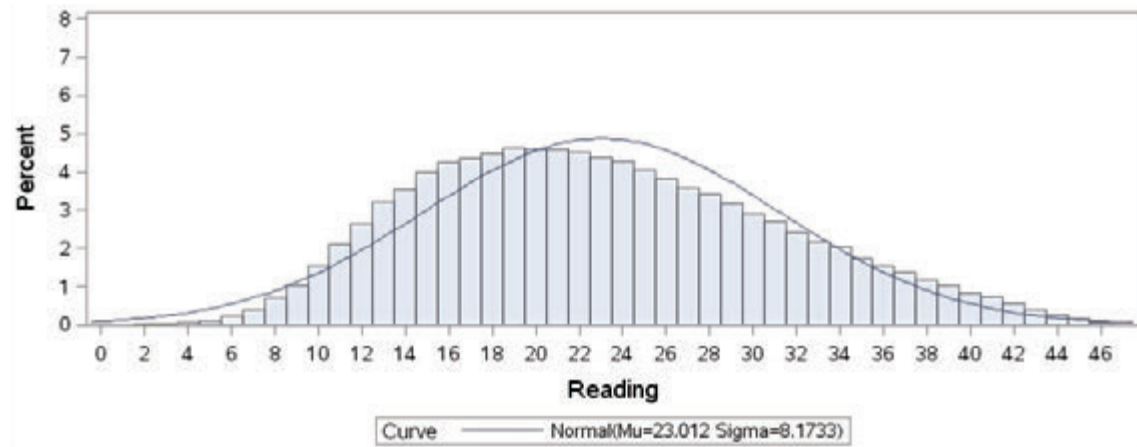


Figure A-6.20.2: Writing and Language Test raw score distribution

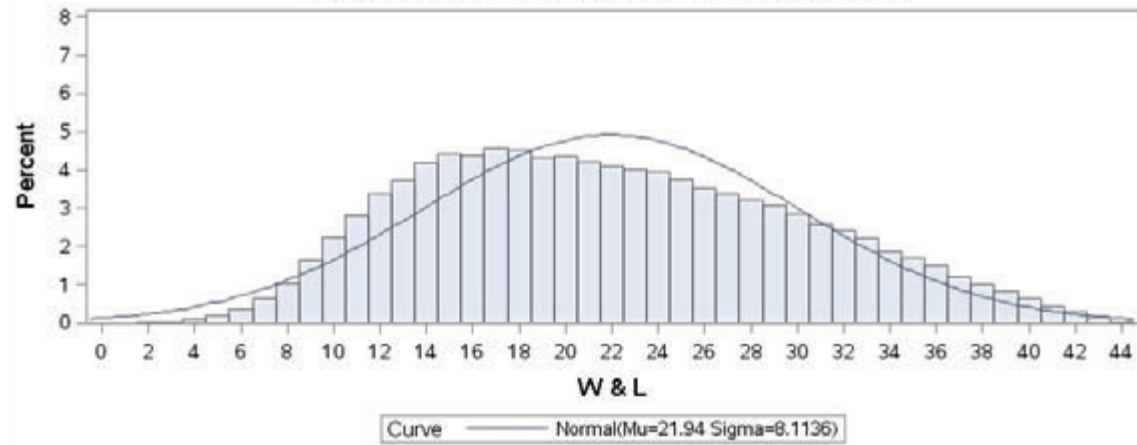


Figure A-6.20.3: Math Test raw score distribution

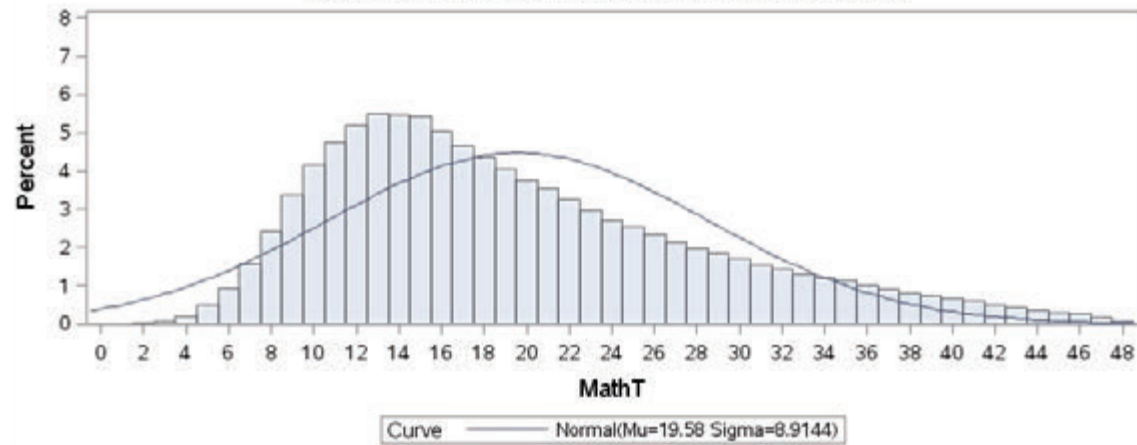


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Figure A-6.20.4: Analysis in History and Social Science raw score distribution

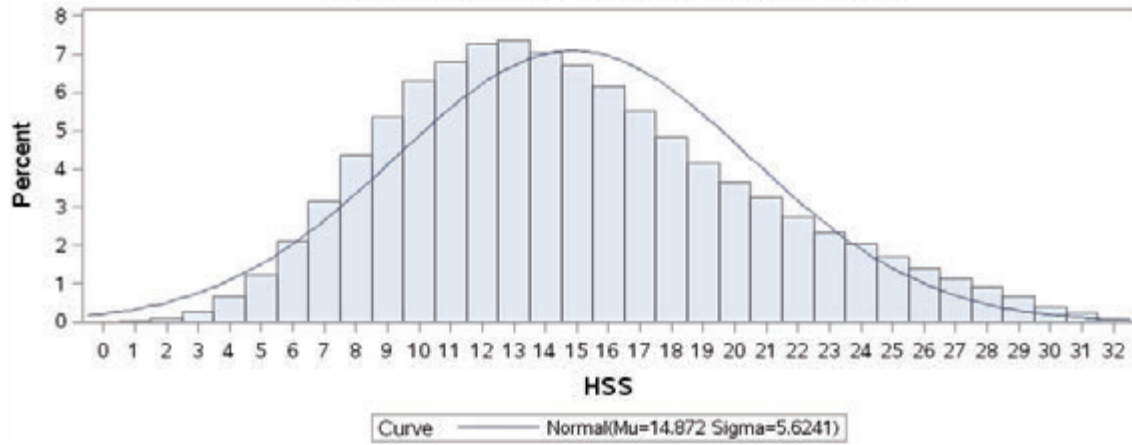


Figure A-6.20.5: Analysis in Science raw score distribution

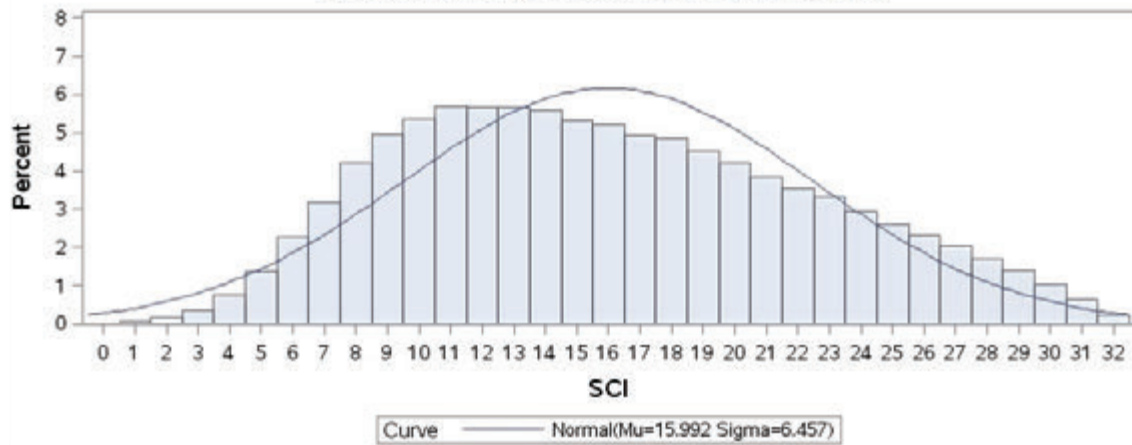


Figure A-6.20.6: Command of Evidence raw score distribution

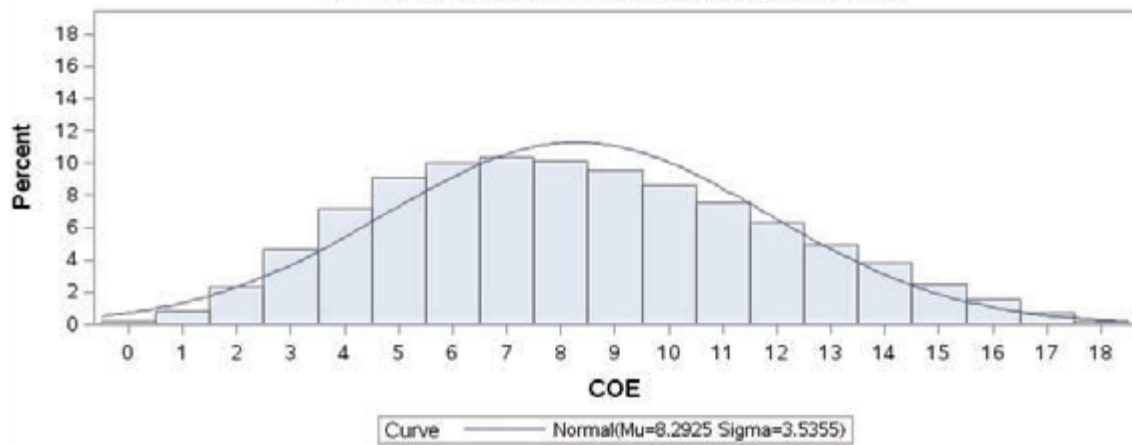


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Figure A-6.20.7: Words in Context raw score distribution

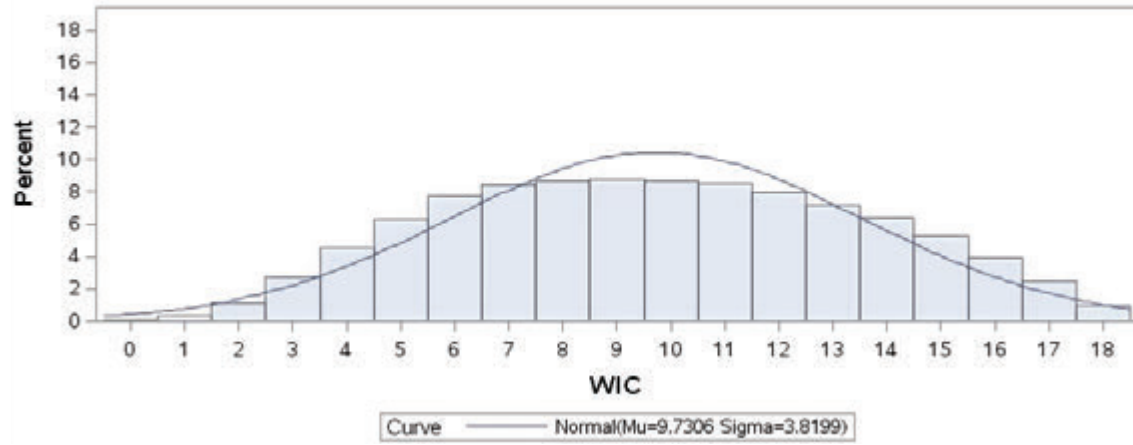


Figure A-6.20.8: Expression of Ideas raw score distribution

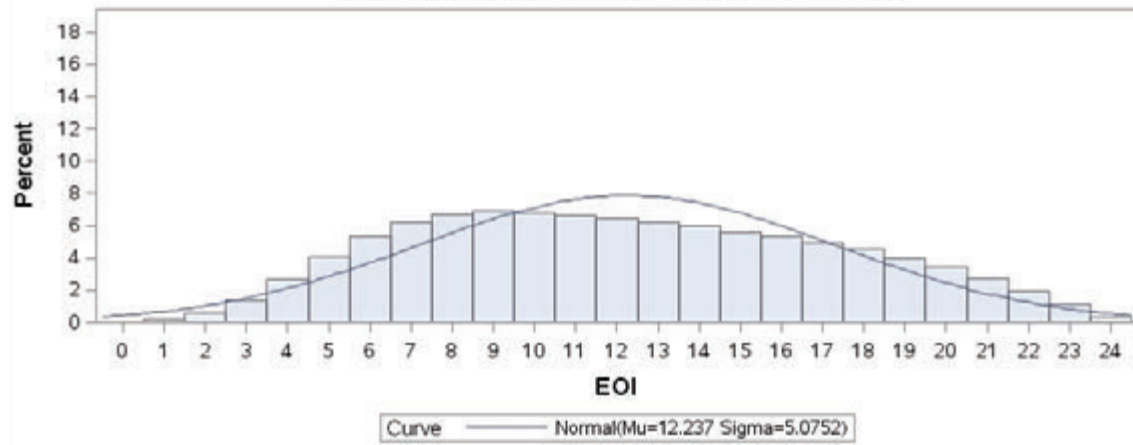


Figure A-6.20.9: Standard English Conventions raw score distribution

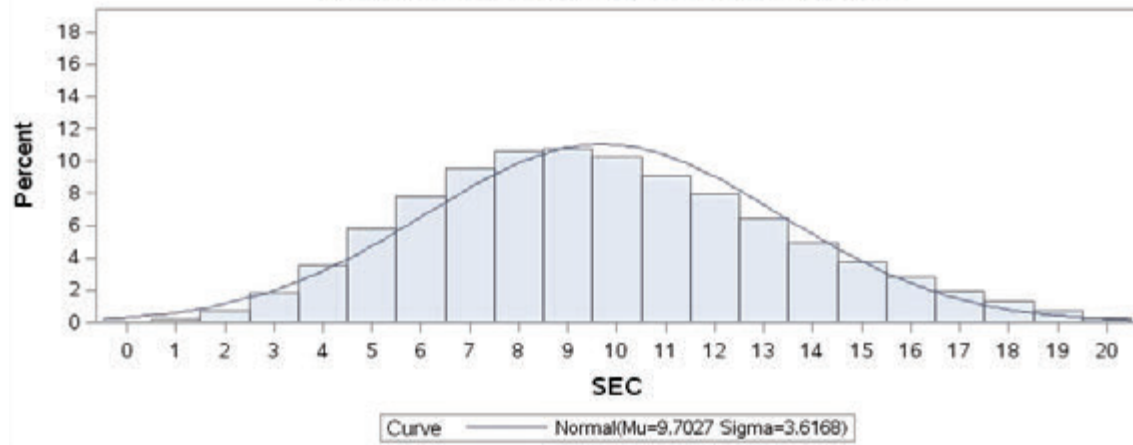


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Figure A-6.20.10: Heart of Algebra raw score distribution

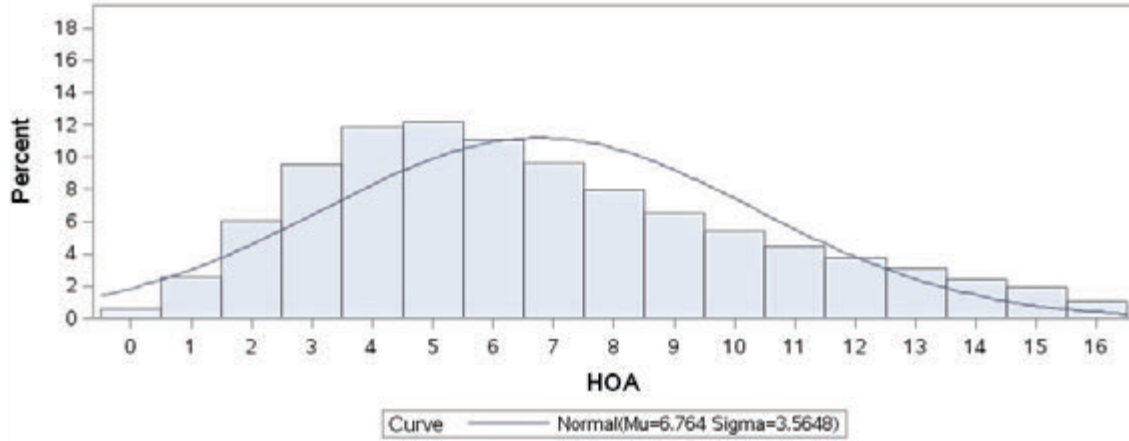


Figure A-6.20.11: Problem Solving and Data Analysis raw score distribution

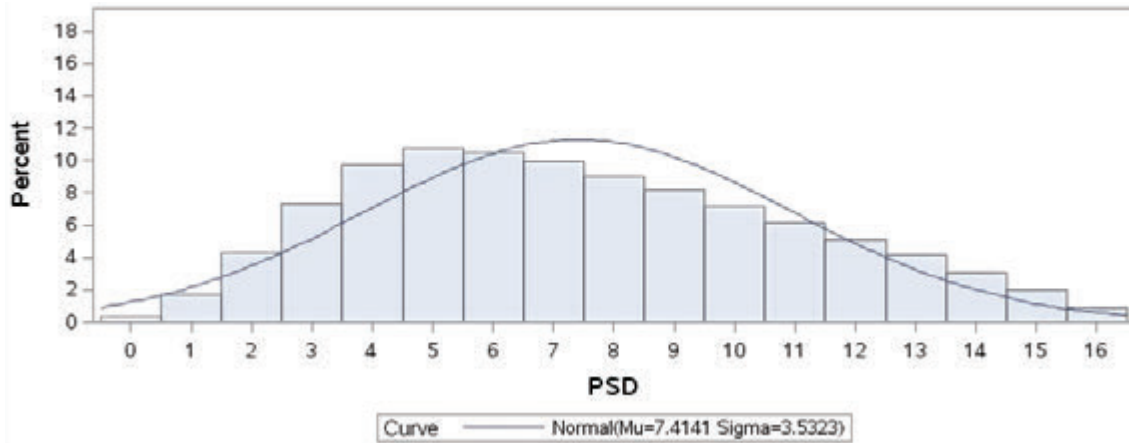


Figure A-6.20.12: Passport to Advanced Math raw score distribution

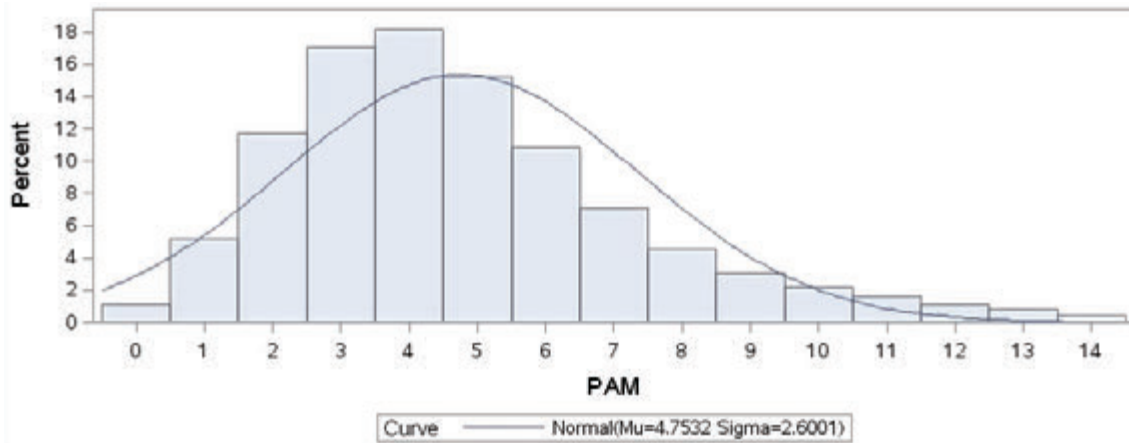




Figure A-6.21: Raw score distributions for PSAT 8/9 Form 1

Figure A-6.21.1: Reading Test raw score distribution

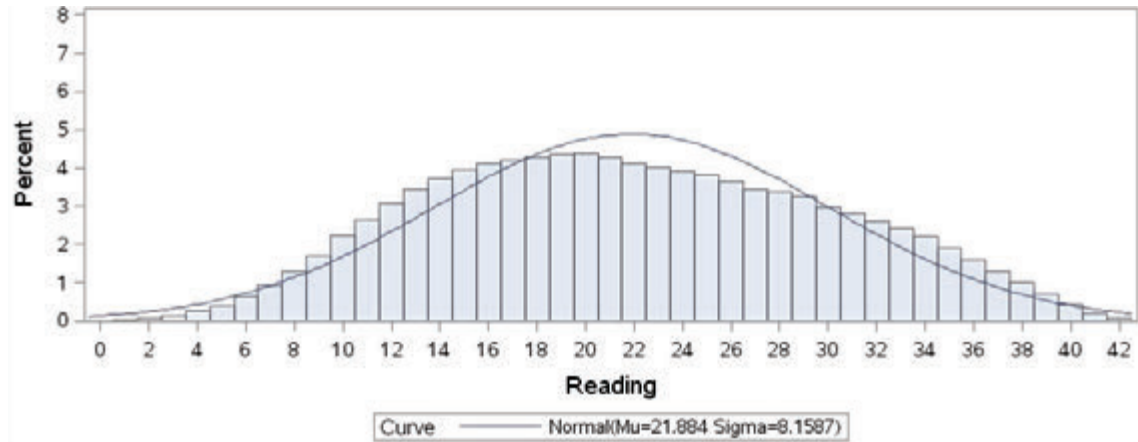


Figure A-6.21.2: Writing and Language Test raw score distribution

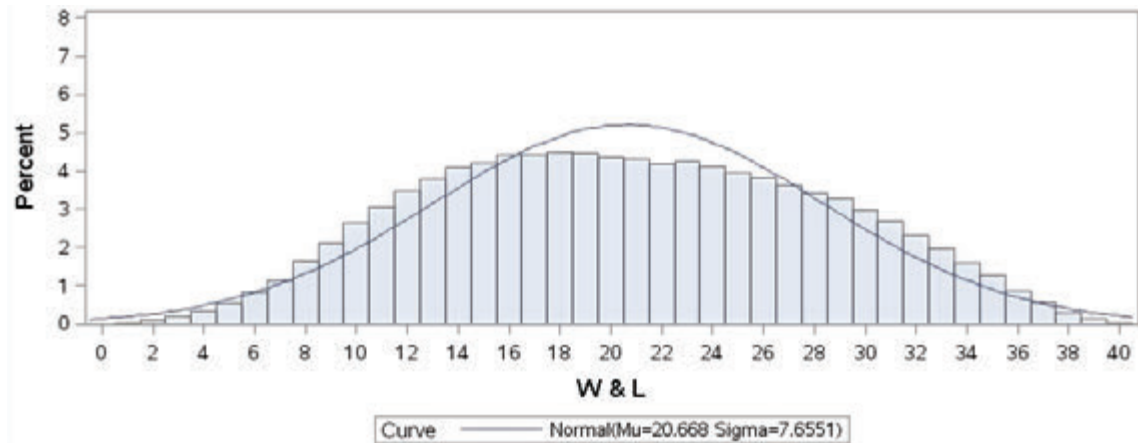


Figure A-6.21.3: Math Test raw score distribution

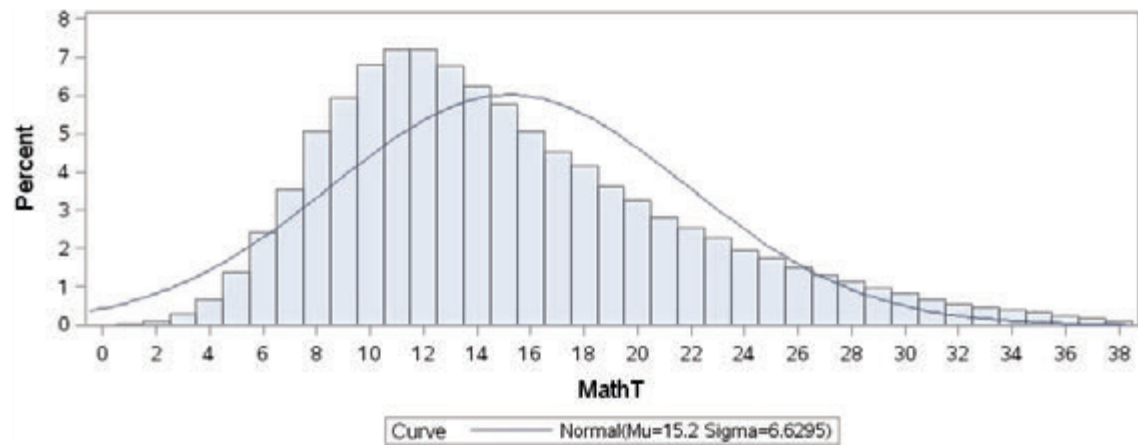


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Figure A-6.21.4: Analysis in History and Social Science raw score distribution

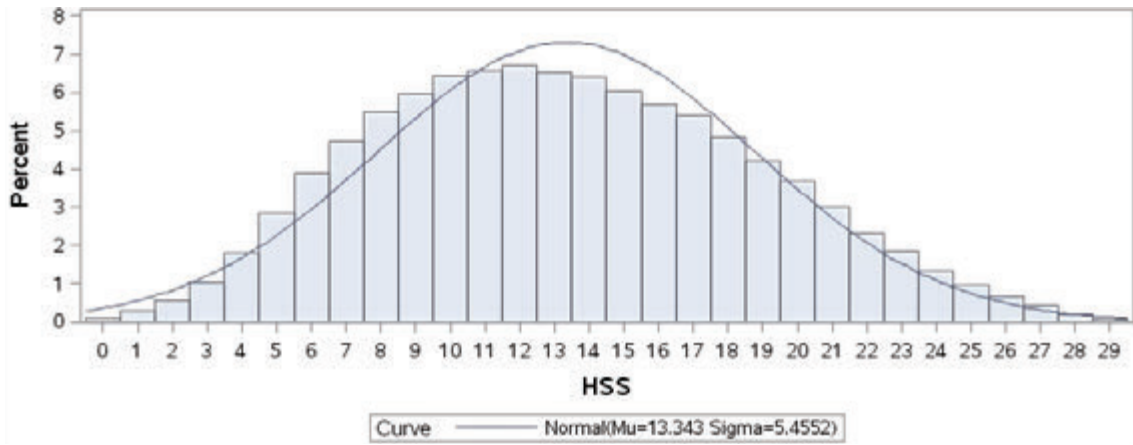


Figure A-6.21.5: Analysis in Science raw score distribution

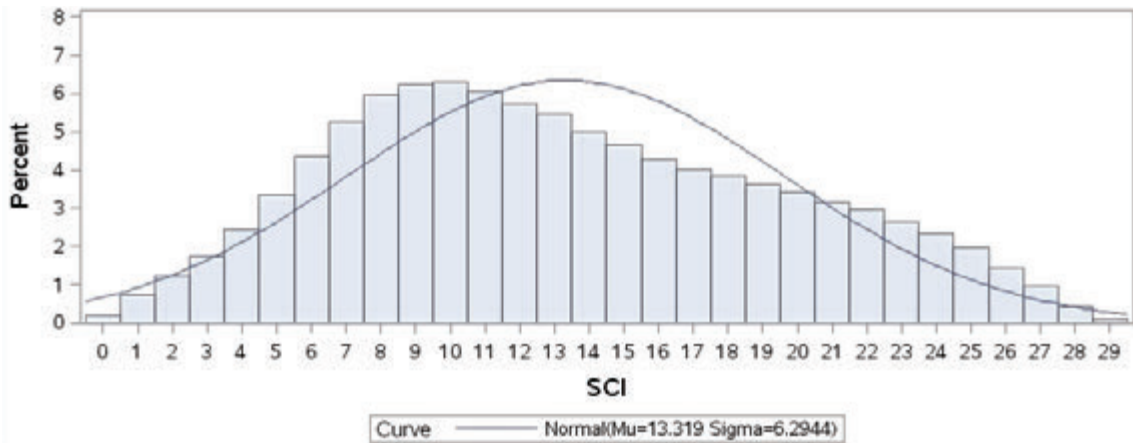


Figure A-6.21.6: Command of Evidence raw score distribution

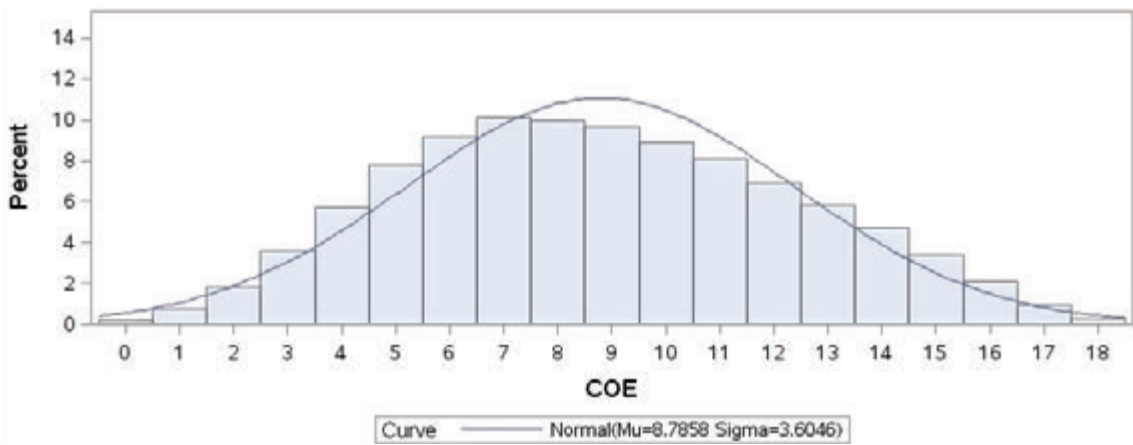


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Figure A-6.21.7: Words in Context raw score distribution

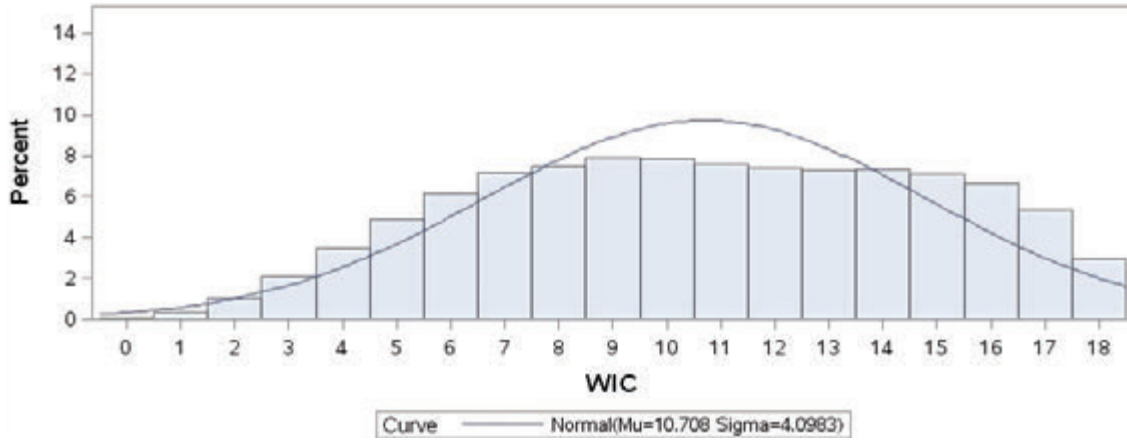


Figure A-6.21.8 Expression of Ideas raw score distribution

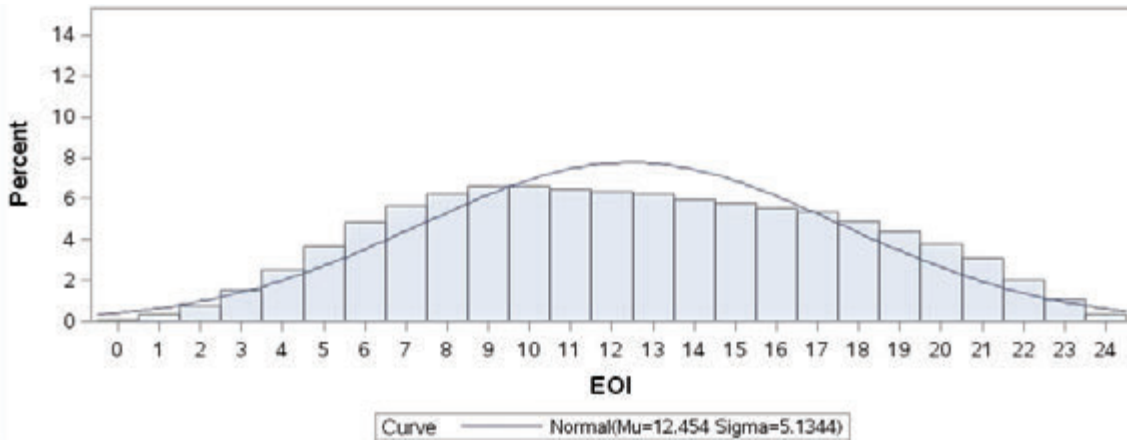


Figure A-6.21.9: Standard English Conventions raw score distribution

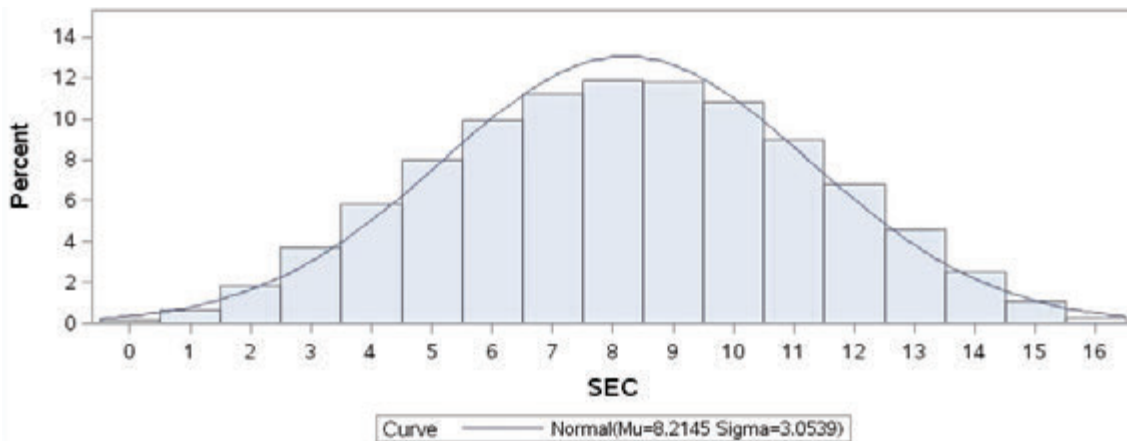


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Figure A-6.21.10: Heart of Algebra raw score distribution

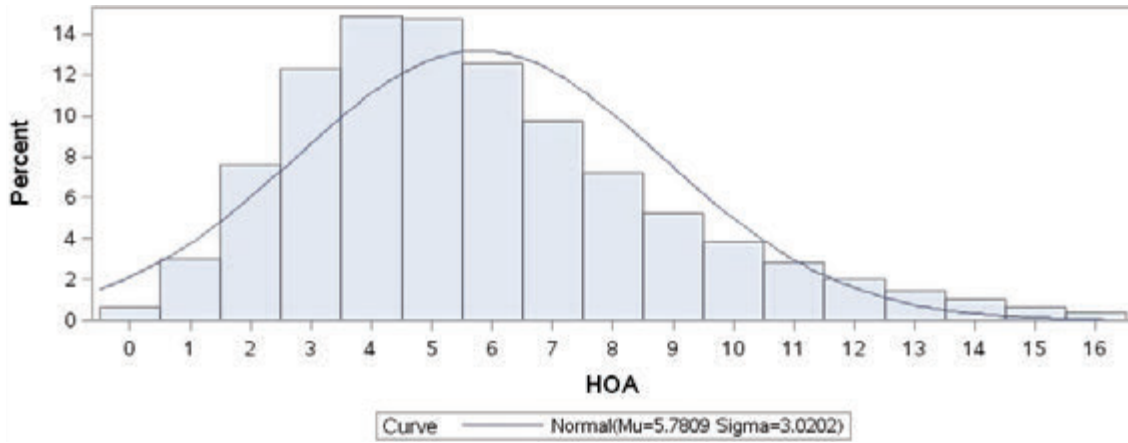


Figure A-6.21.11: Problem Solving and Data Analysis raw score distribution

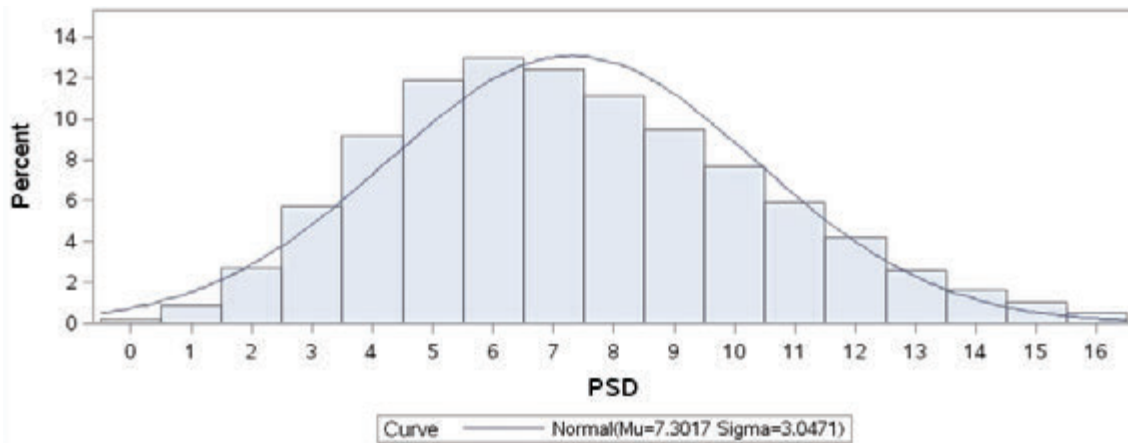


Figure A-6.22: Raw score distributions for PSAT 8/9 Form 2

Figure A-6.22.1: Reading Test raw score distribution

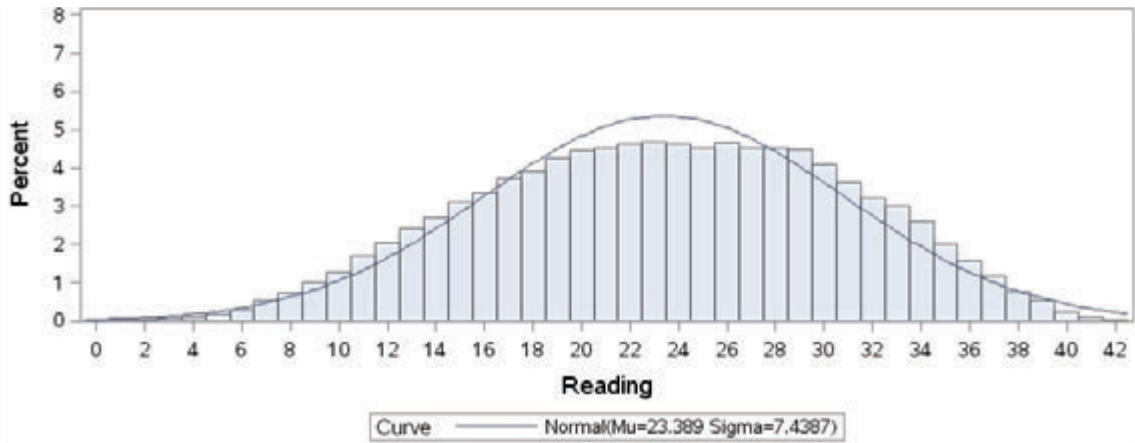


Figure A-6.22.2: Writing and Language Test raw score distribution

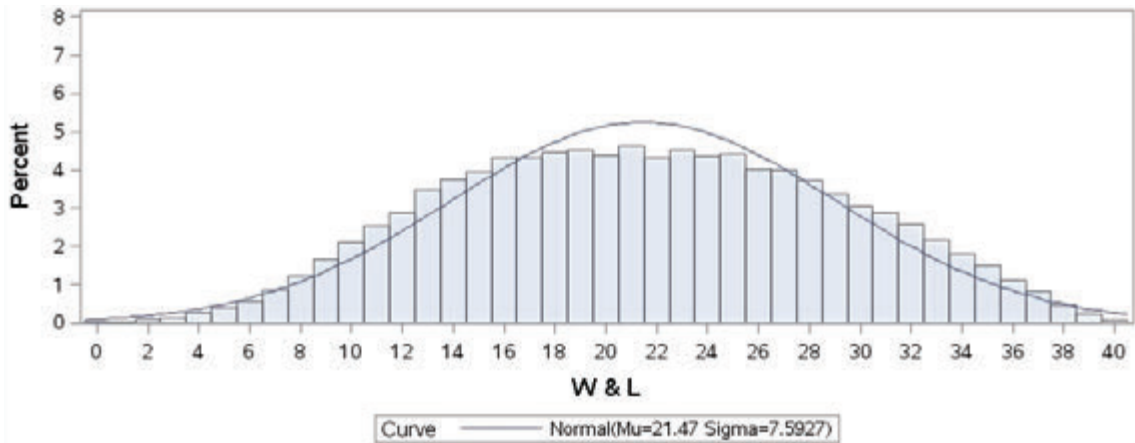


Figure A-6.22.3: Math Test raw score distribution

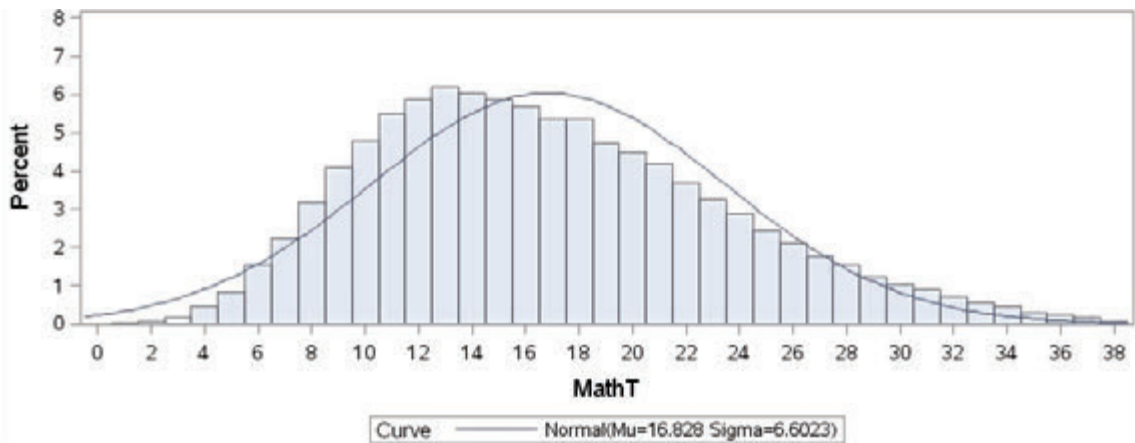


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Figure A-6.22.4: Analysis in History and Social Science raw score distribution

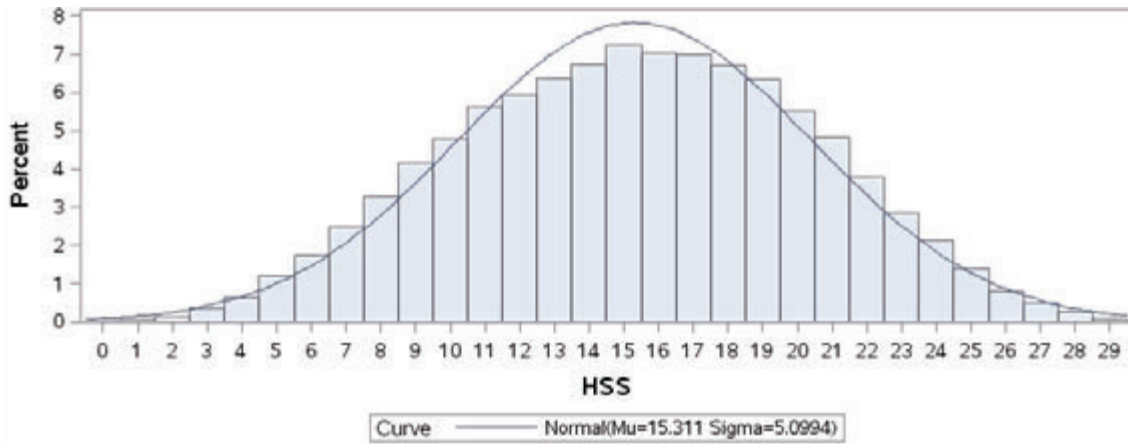


Figure A-6.22.5: Analysis in Science raw score distribution

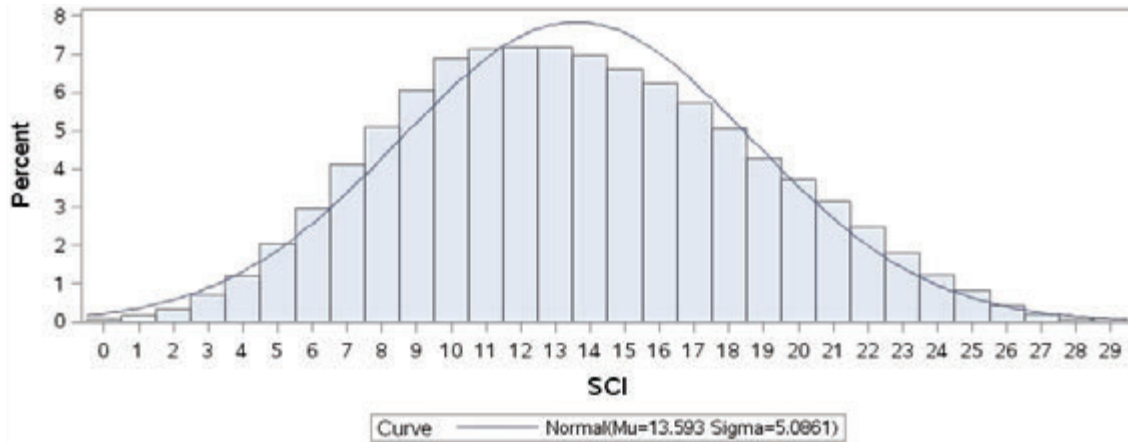


Figure A-6.22.6: Command of Evidence raw score distribution

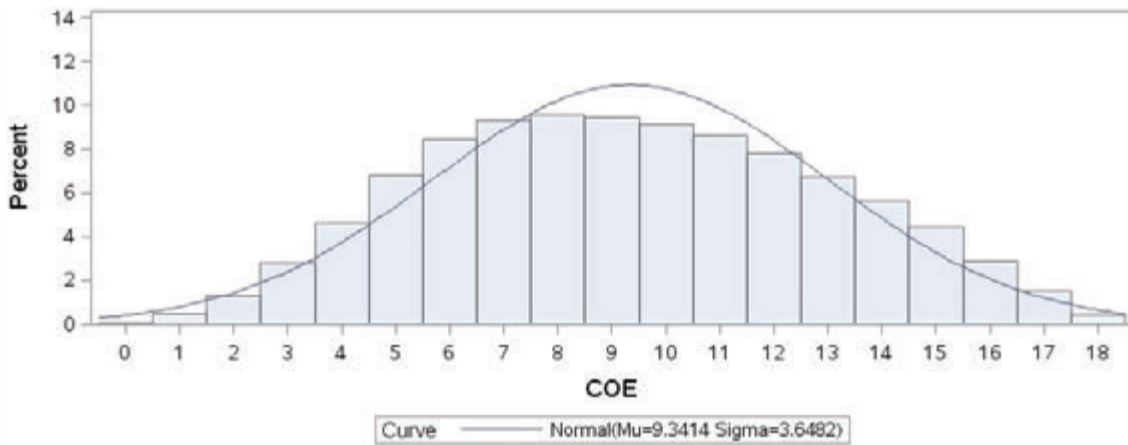


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Figure A-6.22.7: Words in Context raw score distribution

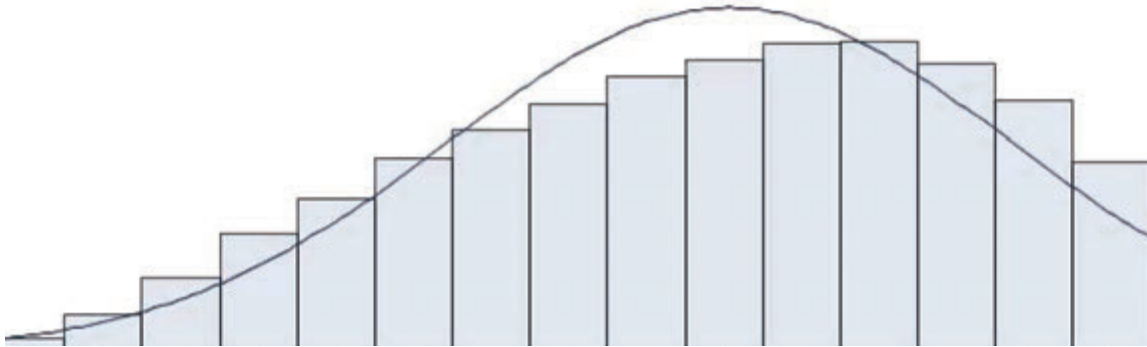


Figure A-6.22.8: Expression of Ideas raw score distribution

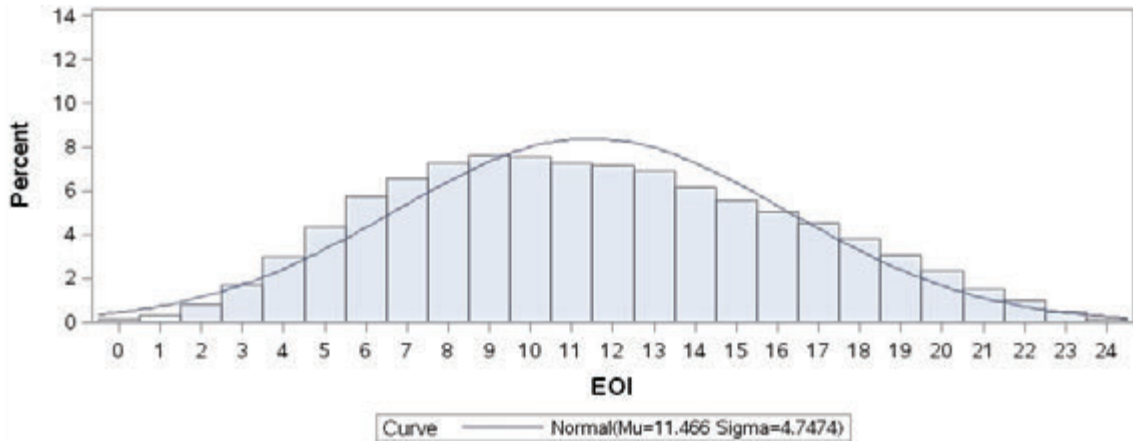


Figure A-6.22.9: Standard English Conventions raw score distribution

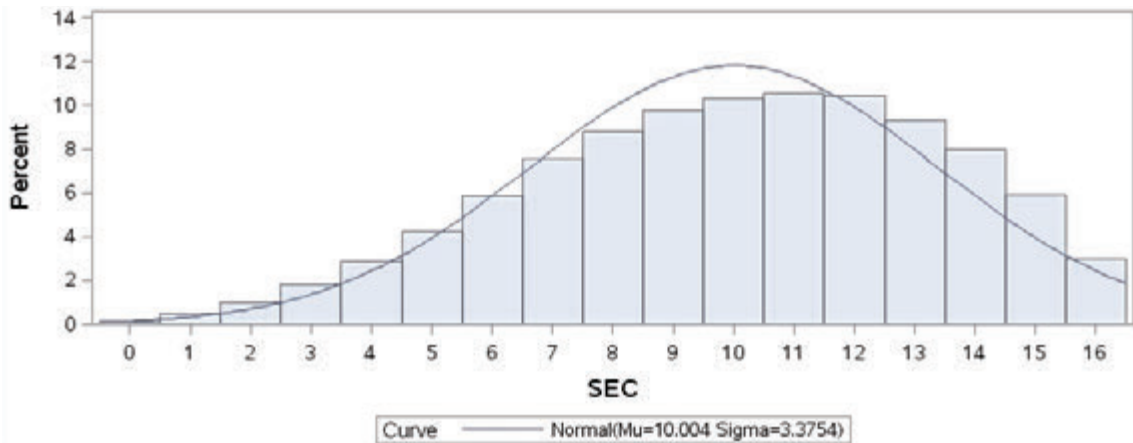


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Figure A-6.22.10: Heart of Algebra raw score distribution

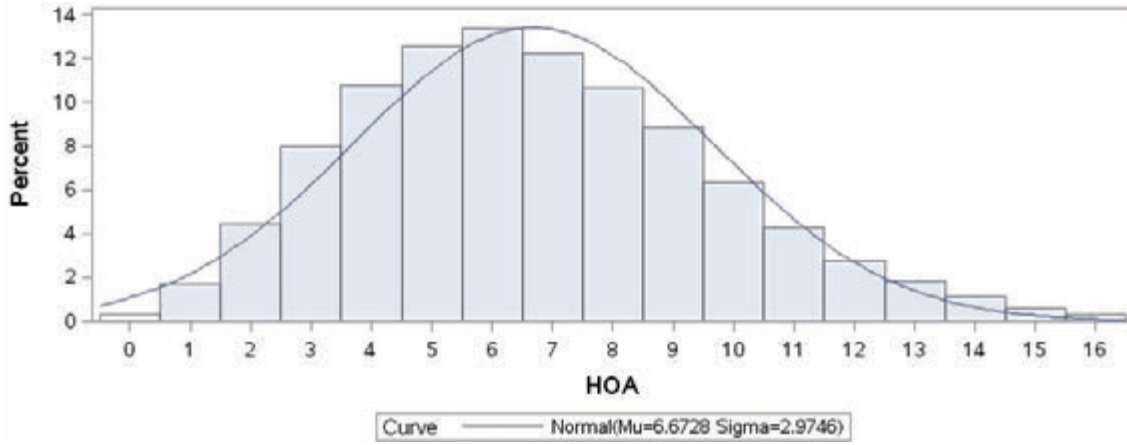


Figure A-6.22.11: Problem Solving and Data Analysis raw score distribution

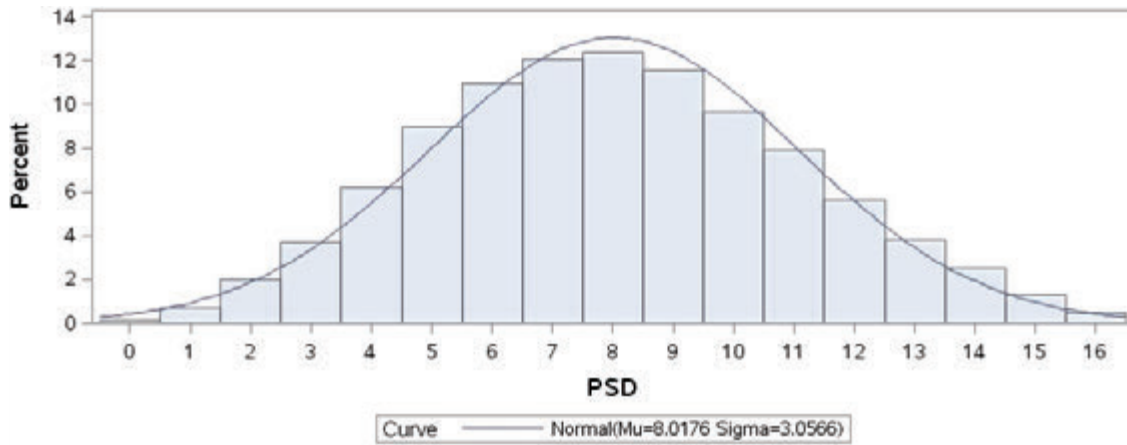




Figure A-6.23: Scale score distributions for SAT Form 1

Figure A-6.23.1: Reading Test scale score distribution

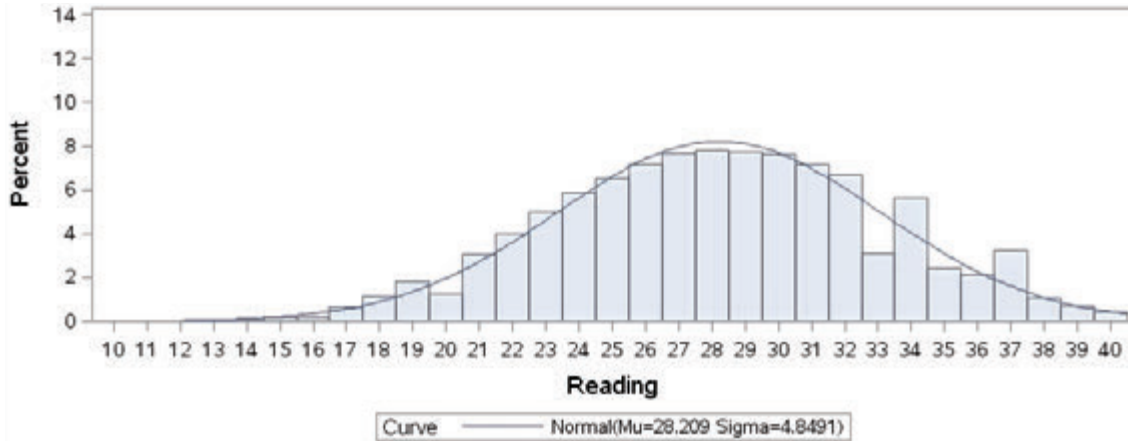


Figure A-6.23.2: Writing and Language Test scale score distribution

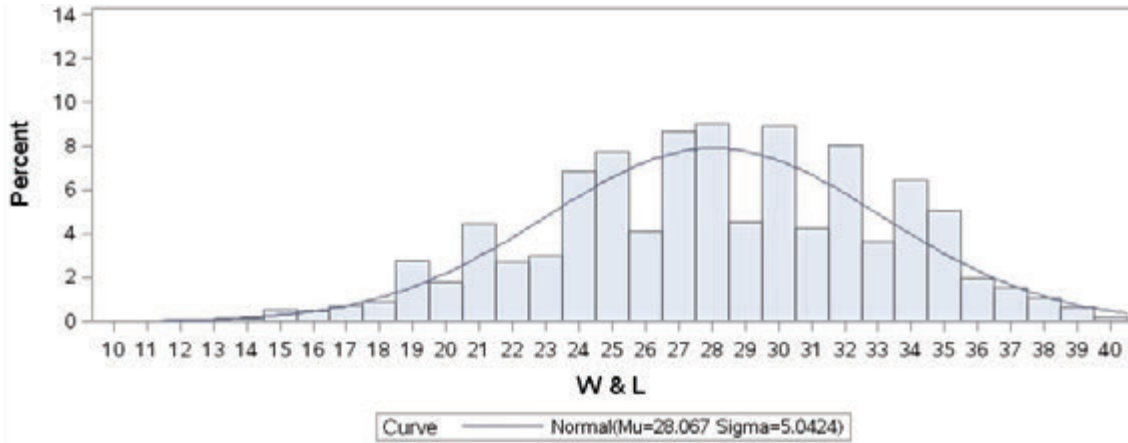


Figure A-6.23.3: Math Test scale score distribution

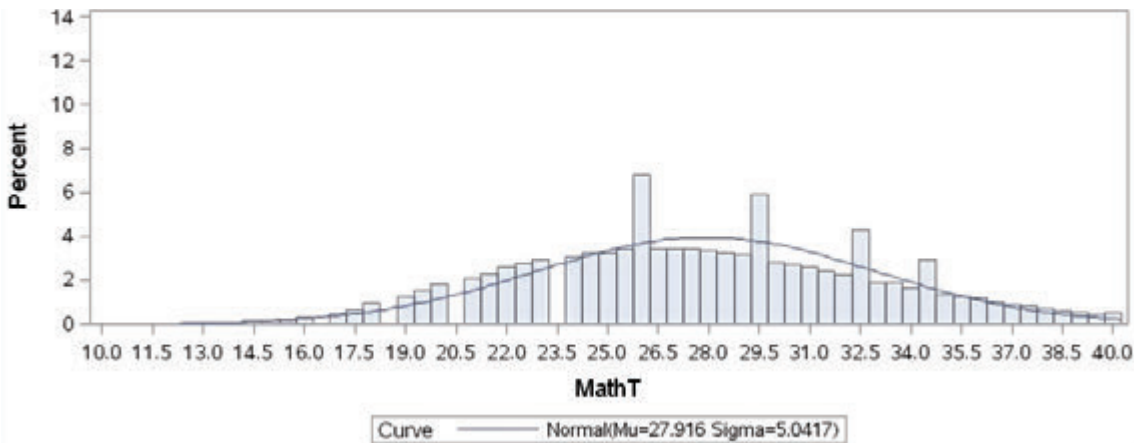


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Figure A-6.23.4: Analysis in History and Social Studies scale score distribution

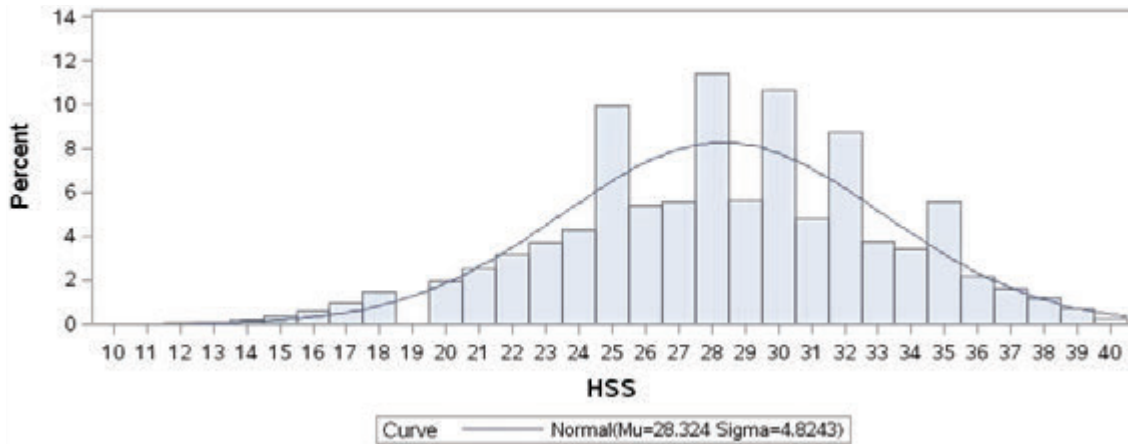


Figure A-6.23.5: Analysis in Science scale score distribution

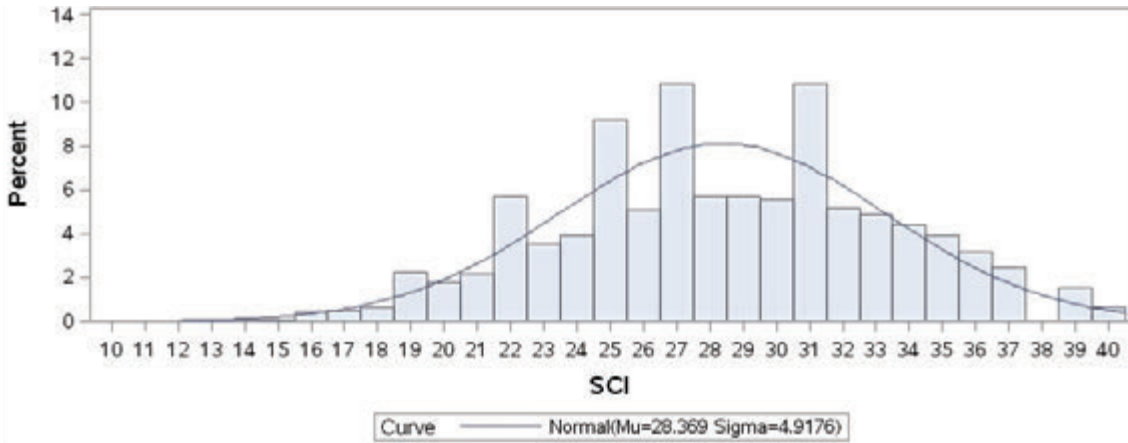


Figure A-6.23.6: Command of Evidence scale score distribution

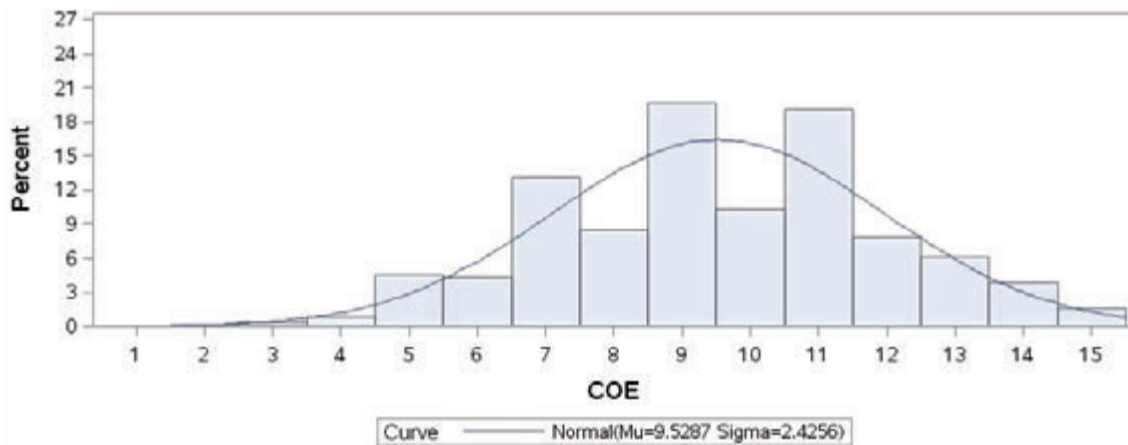


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Figure A-6.23.7: Words in Context scale score distribution

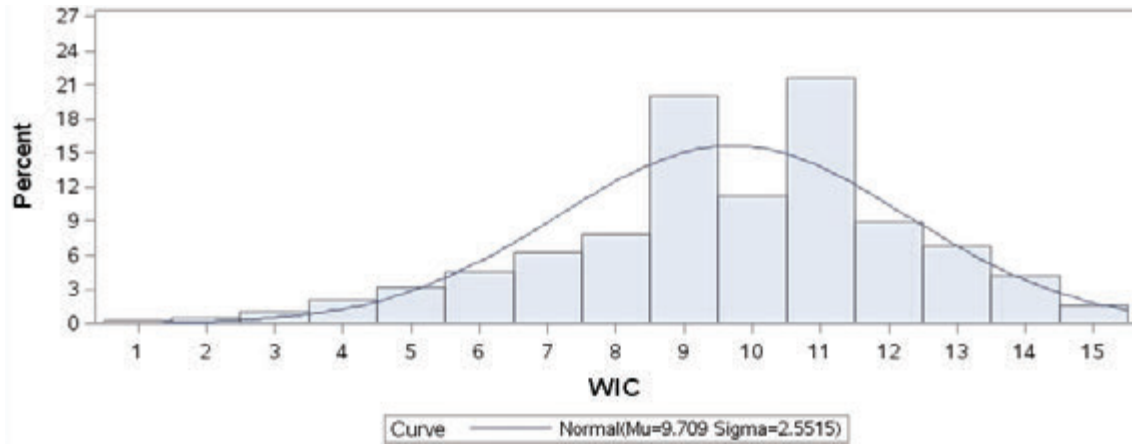


Figure A-6.23.8: Expression of Ideas scale score distribution

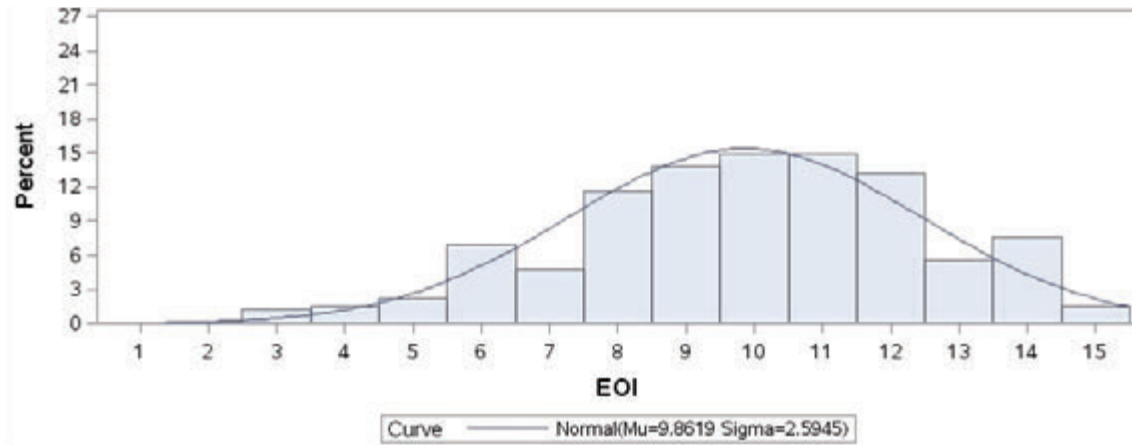


Figure A-6.23.9: Standard English Conventions scale score distribution

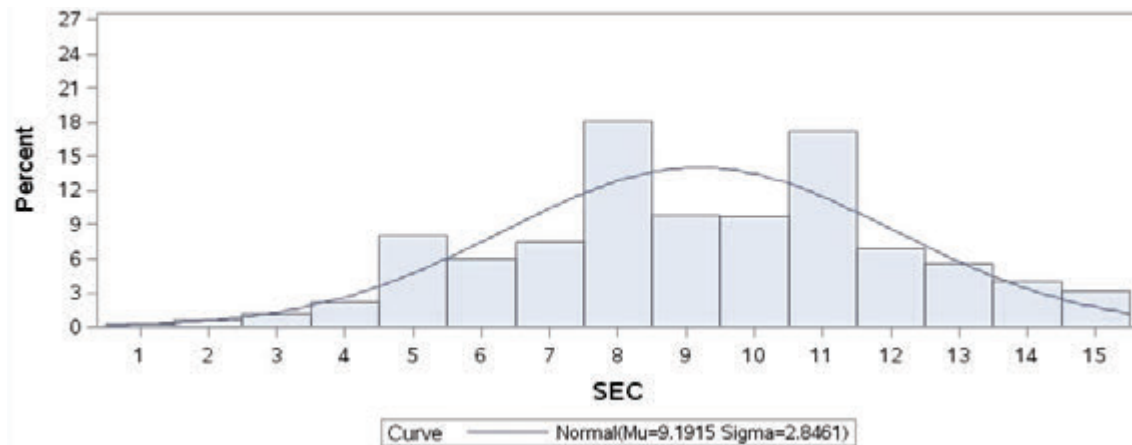


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Figure A-6.23.10: Heart of Algebra scale score distribution

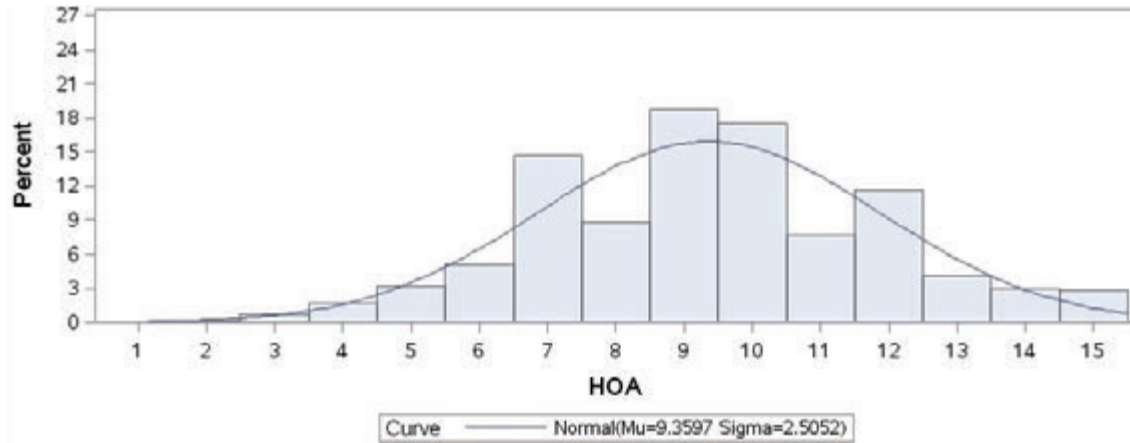


Figure A-6.23.11: Problem Solving and Data Analysis scale score distribution

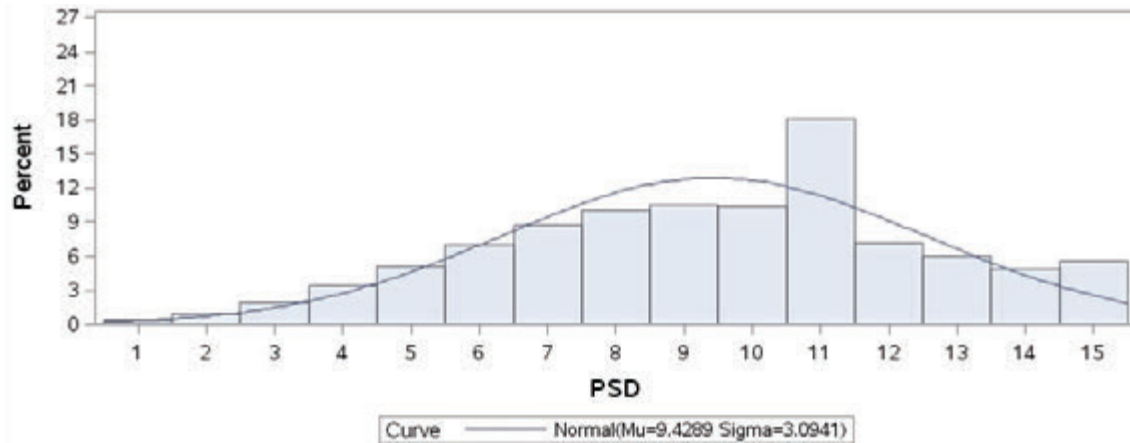


Figure A-6.23.12: Passport to Advanced Math scale score distribution

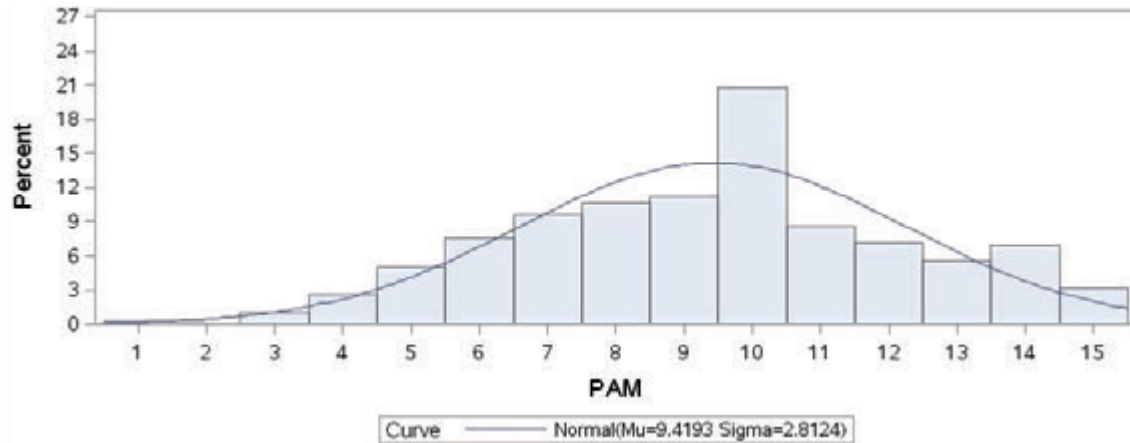


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Figure A-6.23.13: Evidence-Based Reading and Writing scale score distribution

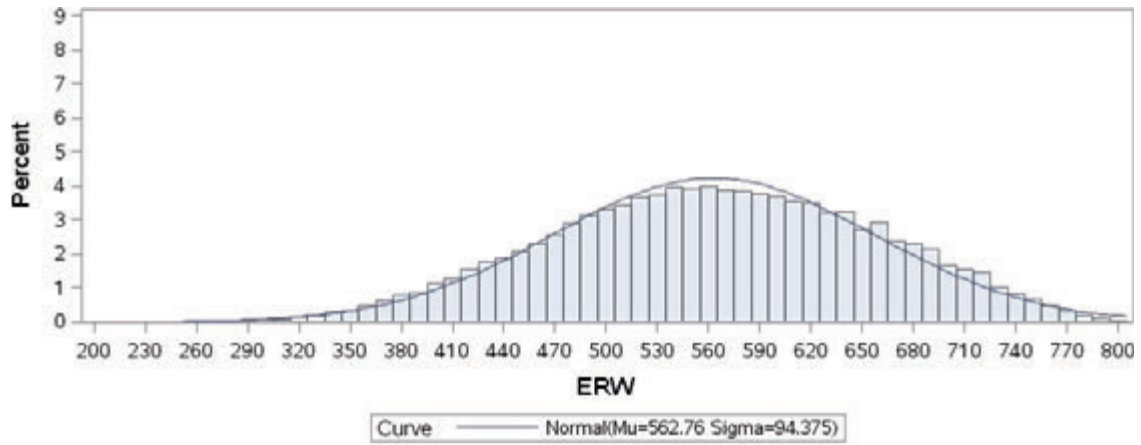


Figure A-6.23.14: Math section scale score distribution

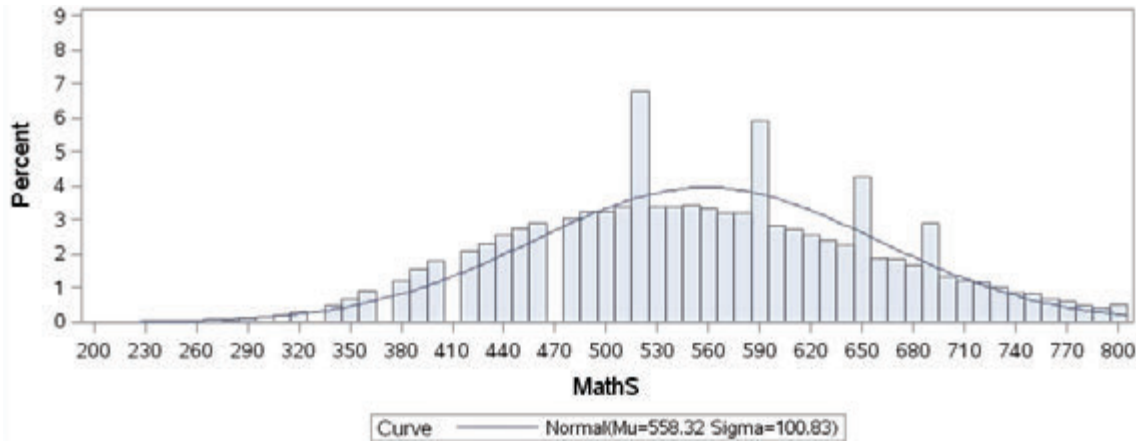


Figure A-6.23.15: Total scale score distribution

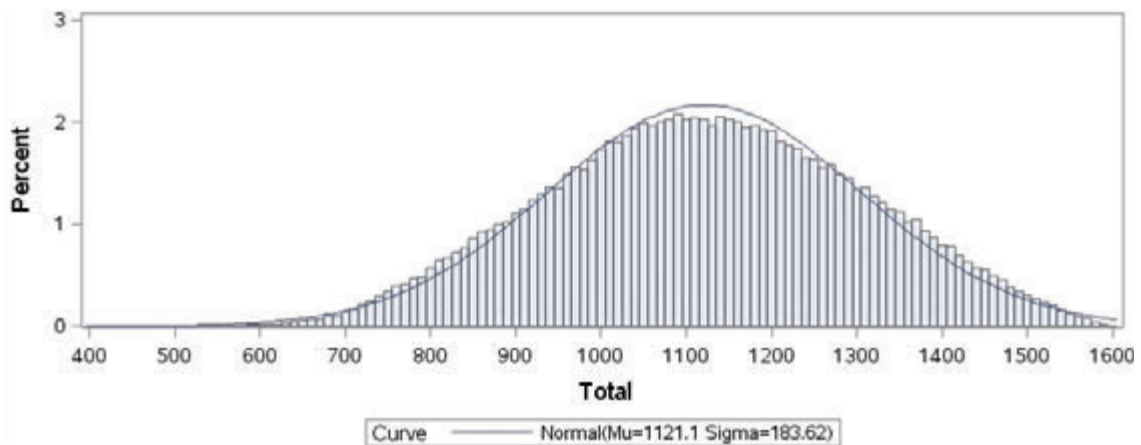


Figure A-6.24: Scale score distributions for SAT Form 2

Figure A-6.24.1: Reading Test scale score distribution

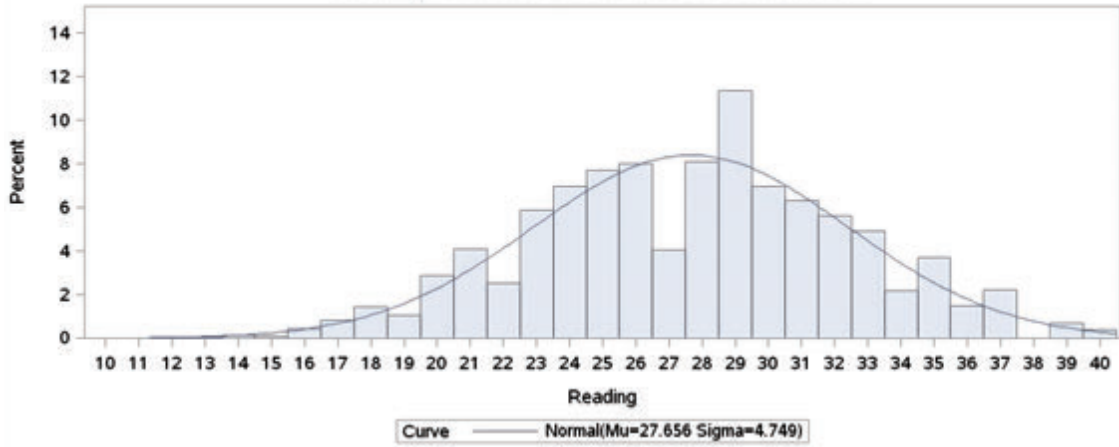


Figure A-6.24.2: Writing and Language Test scale score distribution

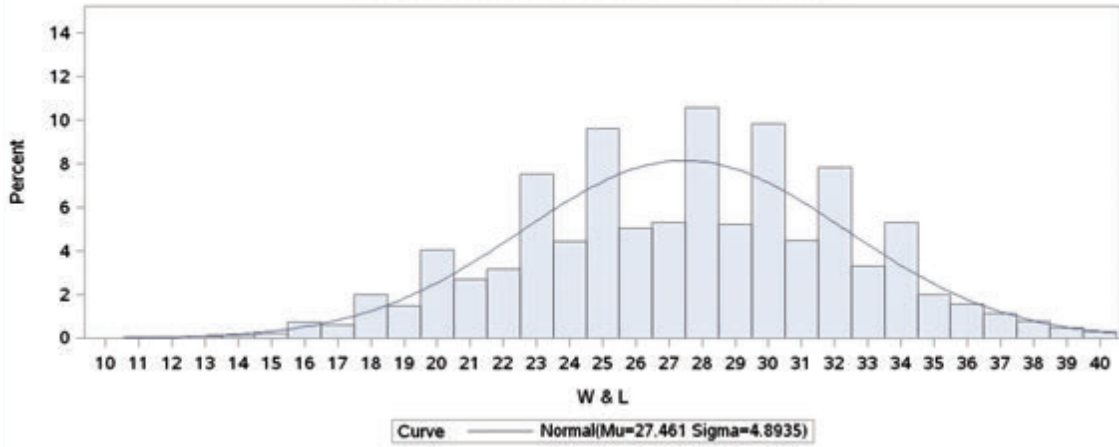


Figure A-6.24.3: Math Test scale score distribution

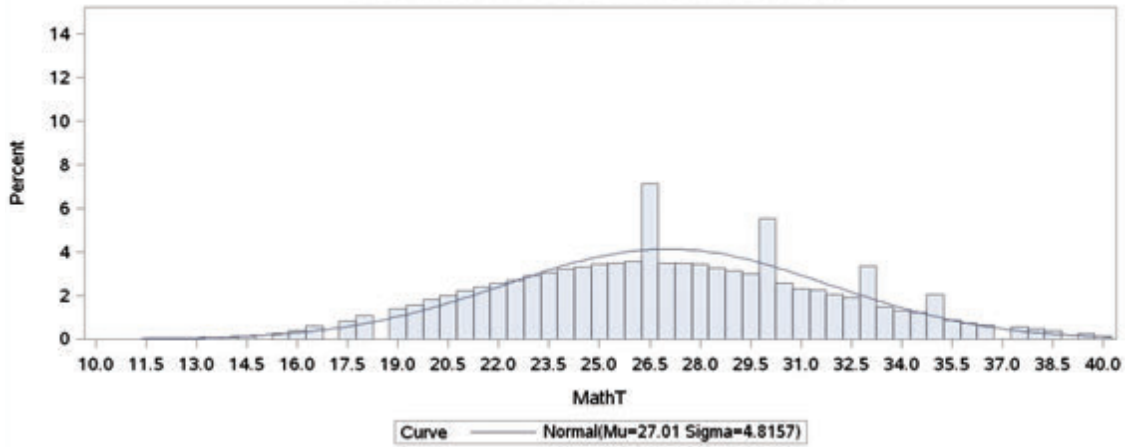


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Figure A-6.24.4: Analysis in History and Social Studies scale score distribution

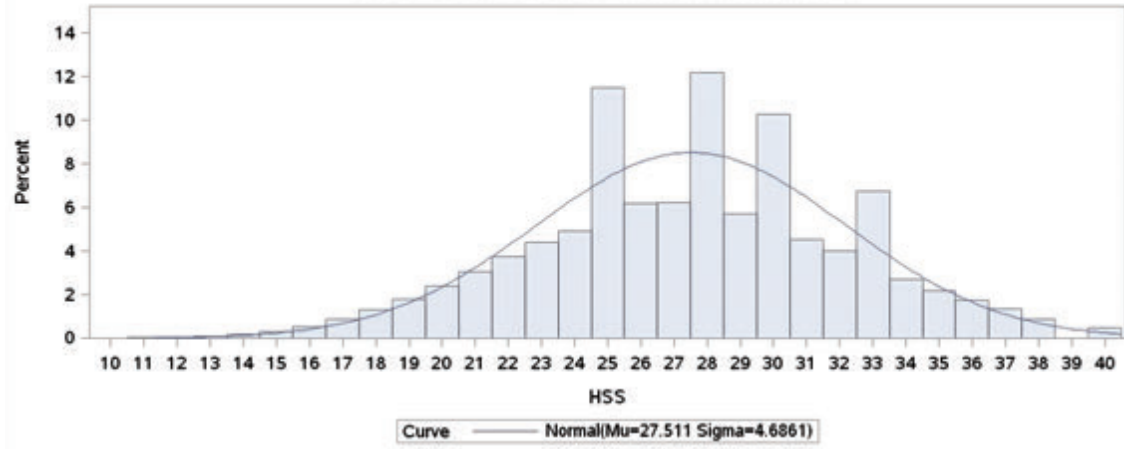


Figure A-6.24.5: Analysis in Science scale score distribution

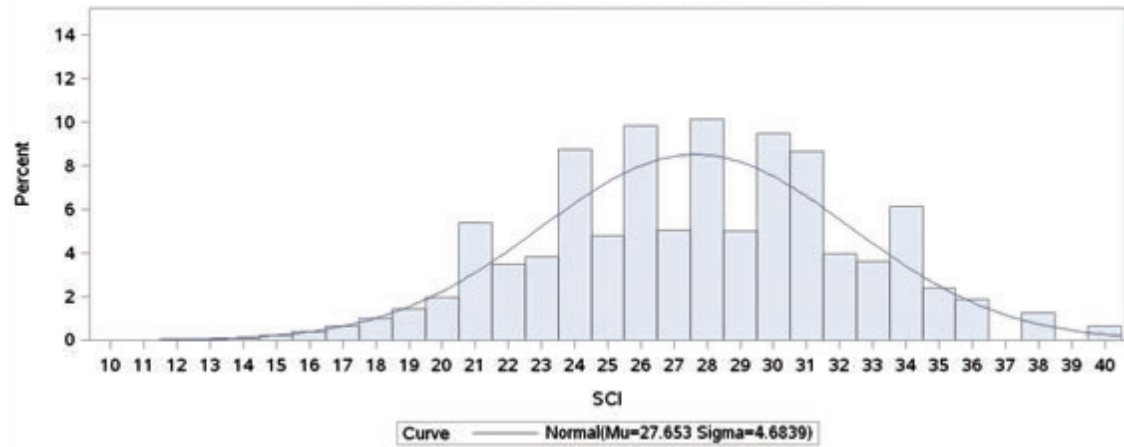


Figure A-6.24.6: Command of Evidence scale score distribution

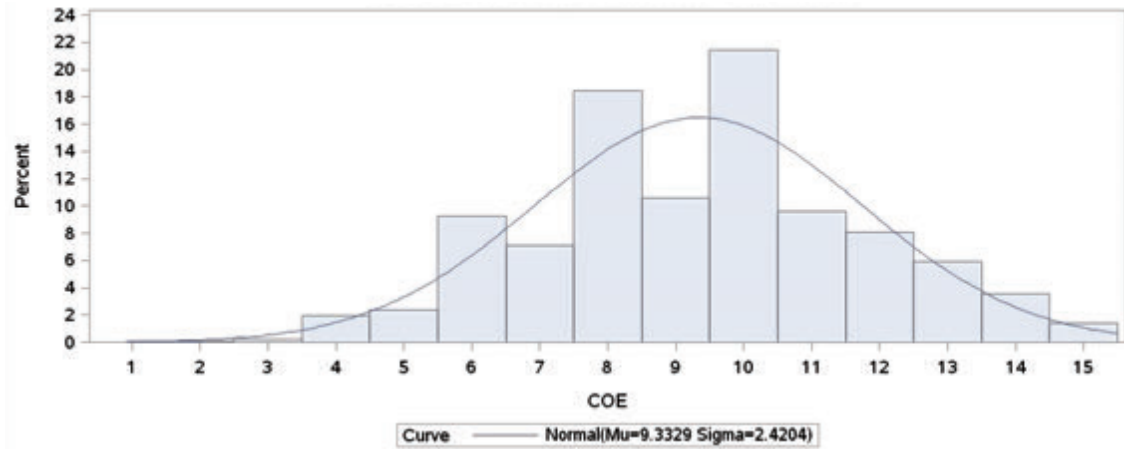


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Figure A-6.24.7: Words in Context scale score distribution

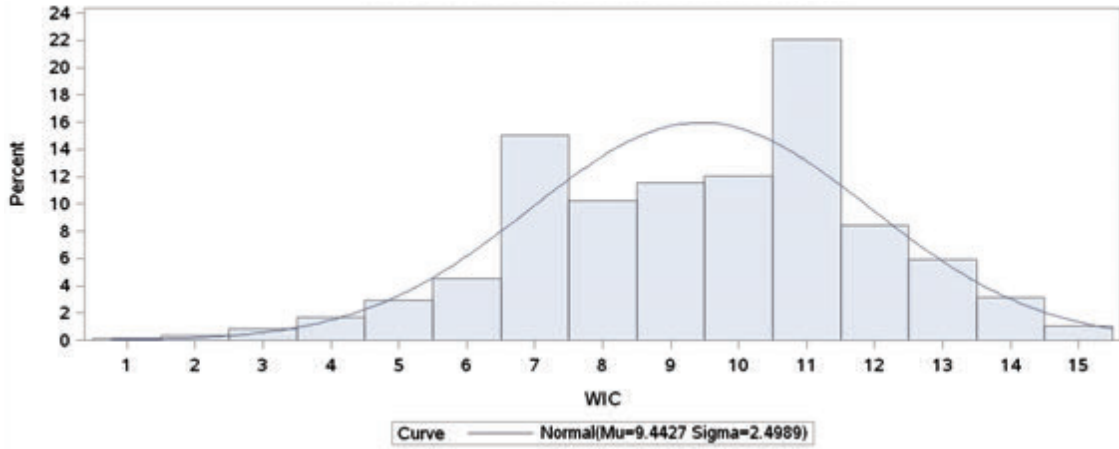


Figure A-6.24.8: Expression of Ideas scale score distribution

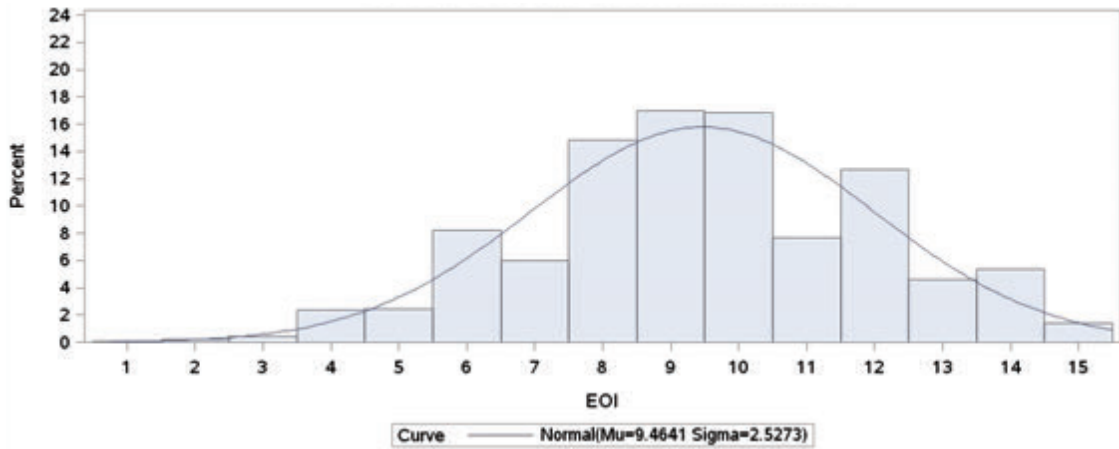


Figure A-6.24.9: Standard English Conventions scale score distribution

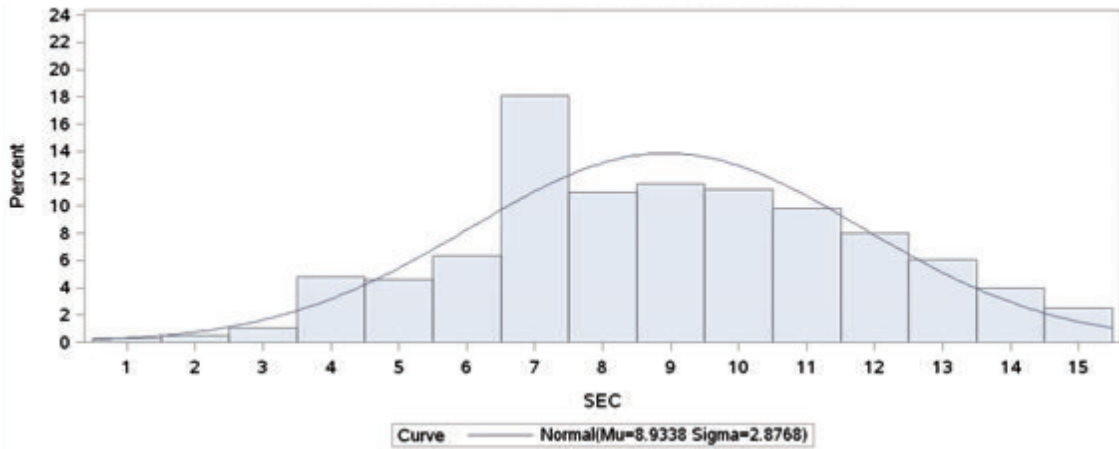


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Figure A-6.24.10: Heart of Algebra scale score distribution

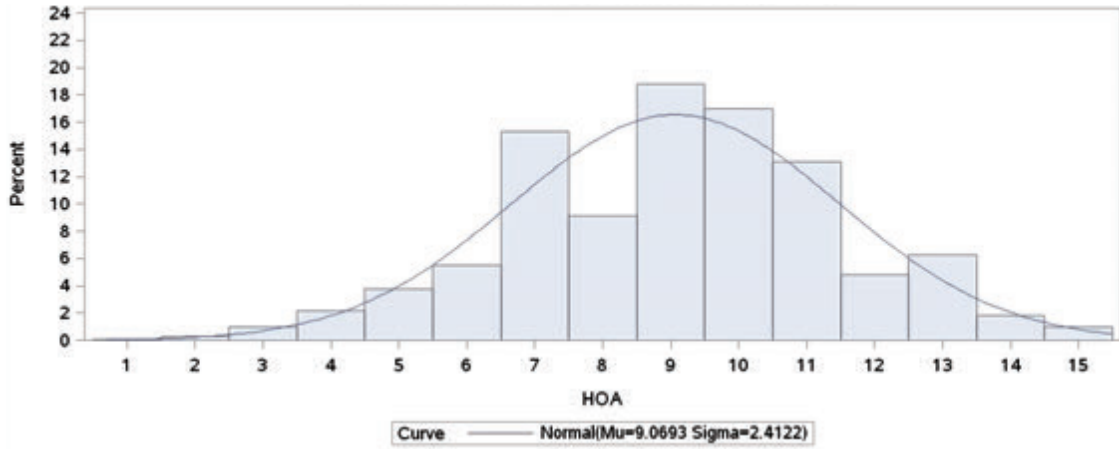


Figure A-6.24.11: Problem Solving and Data Analysis scale score distribution

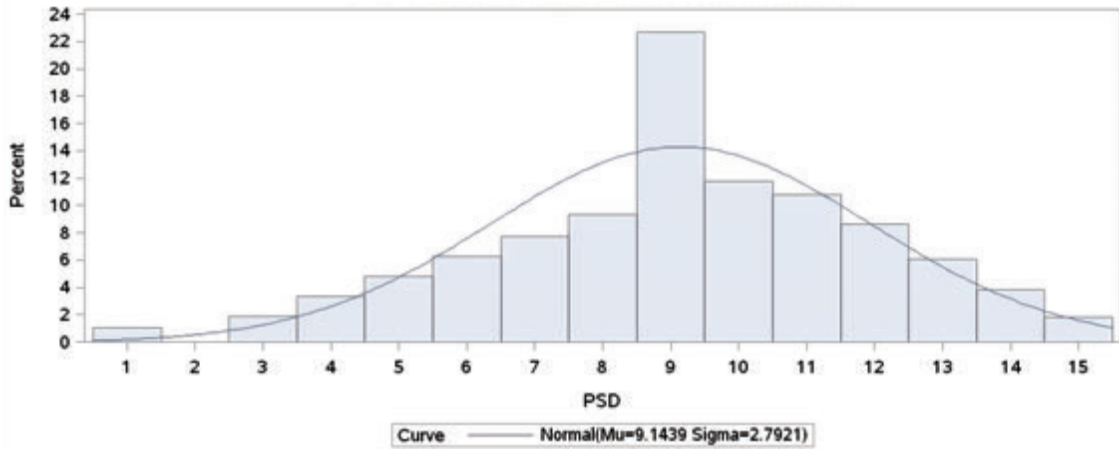


Figure A-6.24.12: Passport to Advanced Math scale score distribution

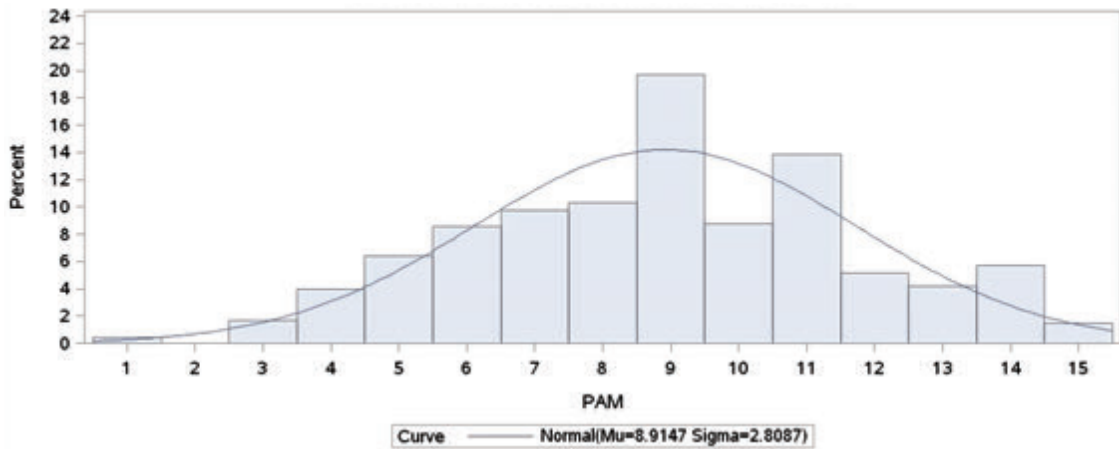


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Figure A-6.24.13: Evidence-Based Reading and Writing scale score distribution

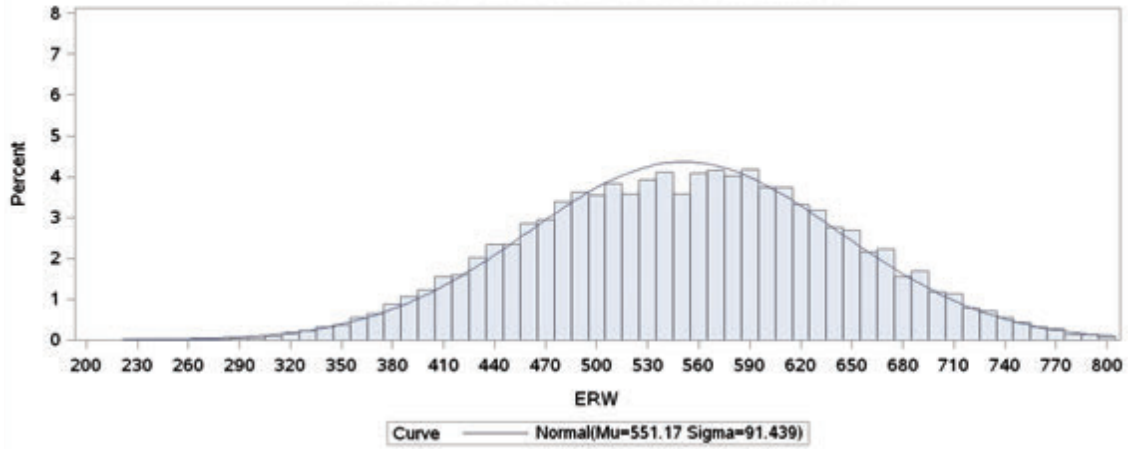


Figure A-6.24.14: Math section scale score distribution

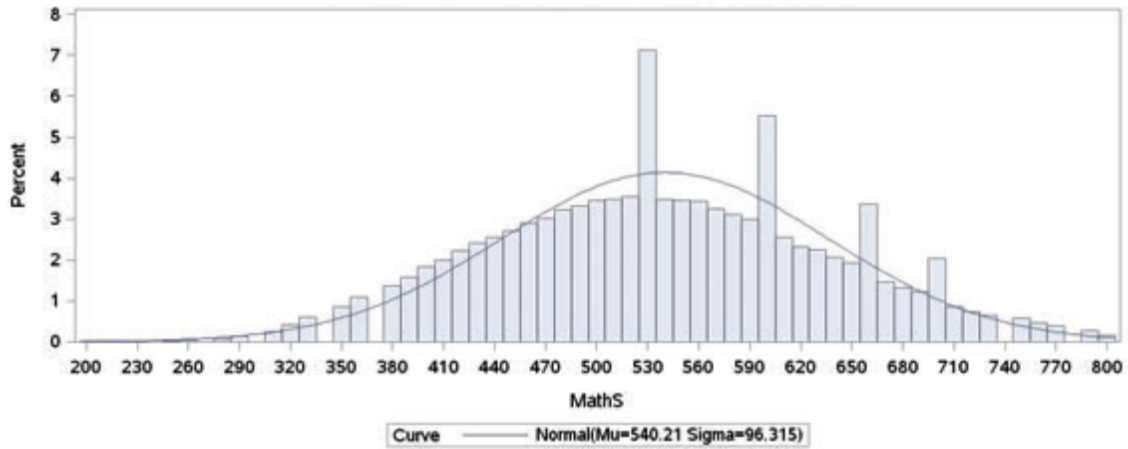


Figure A-6.24.15: Total scale score distribution

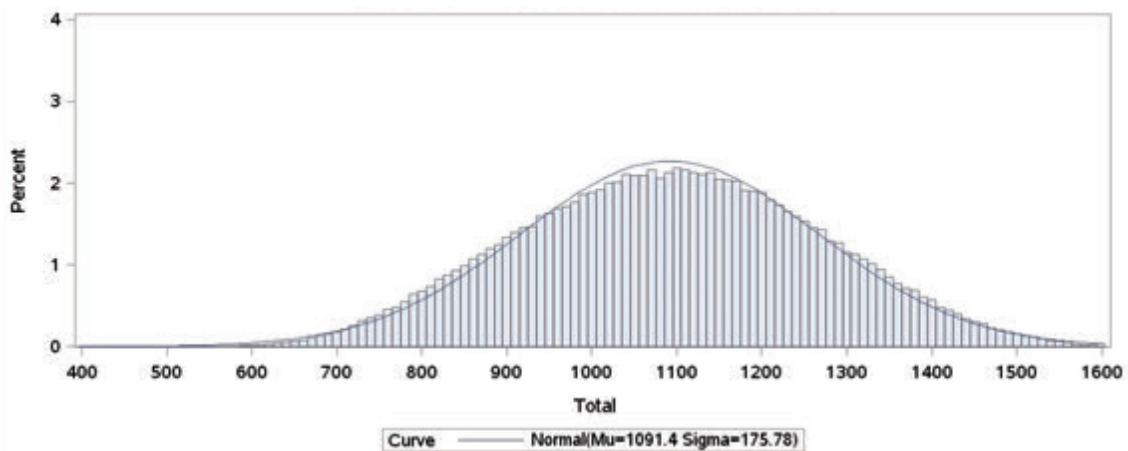


Figure A-6.25: Scale score distributions for SAT Form 3

Figure A-6.25.1: Reading Test scale score distribution

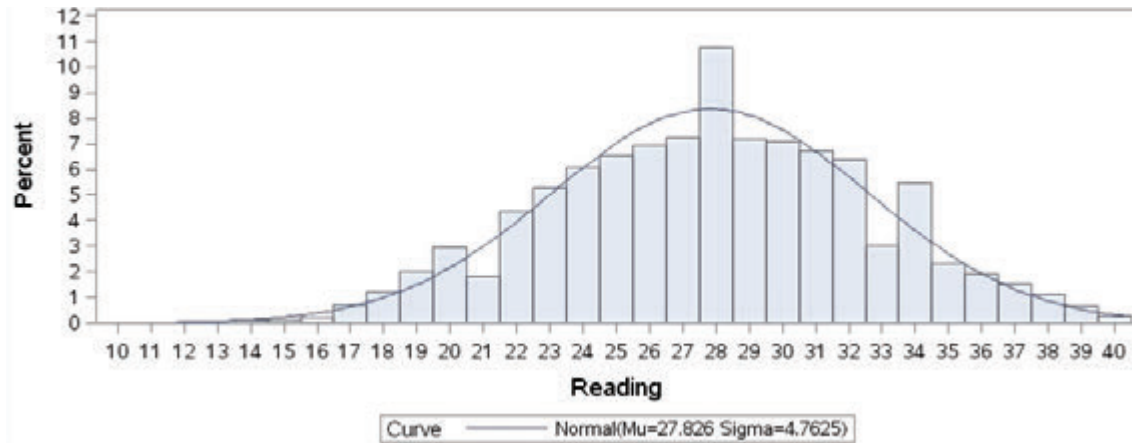


Figure A-6.25.2: Writing and Language Test scale score distribution

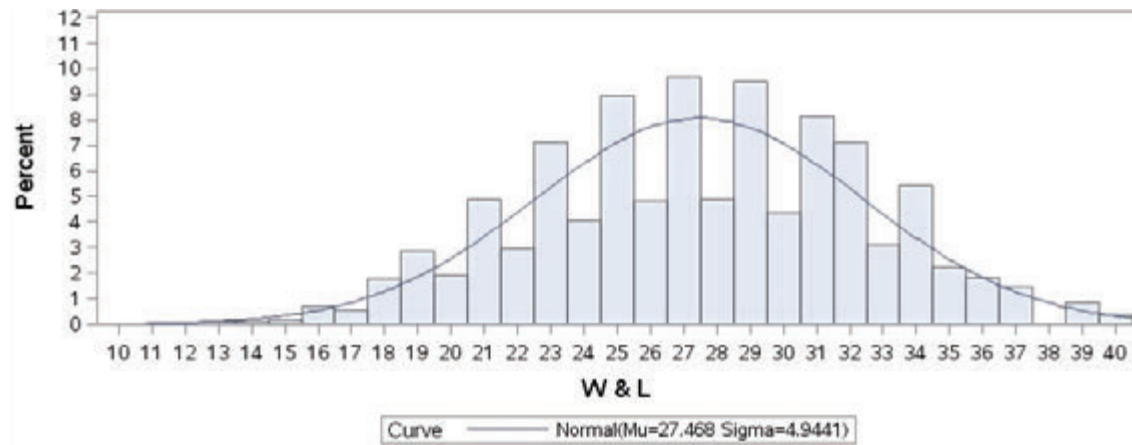


Figure A-6.25.3: Math Test scale score distribution

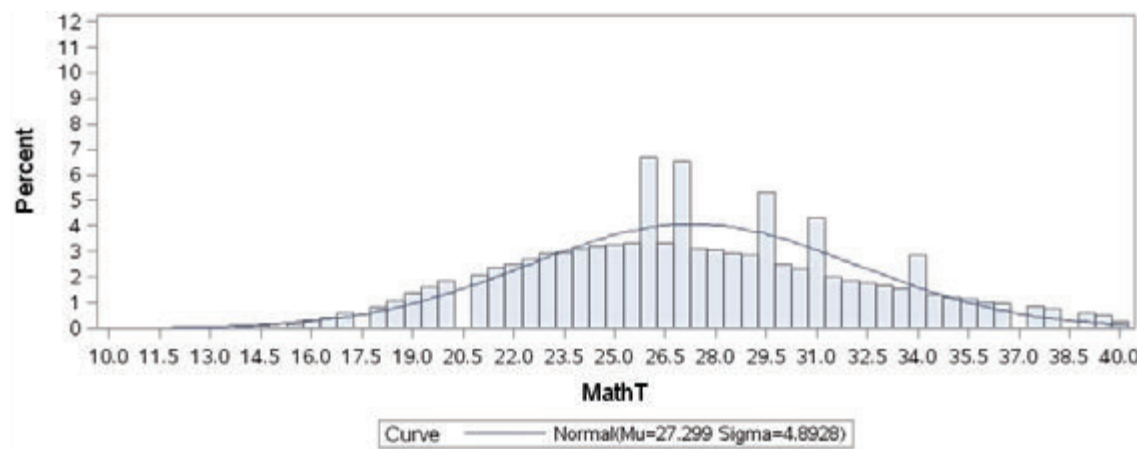


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Figure A-6.25.4: Analysis in History and Social Studies scale score distribution

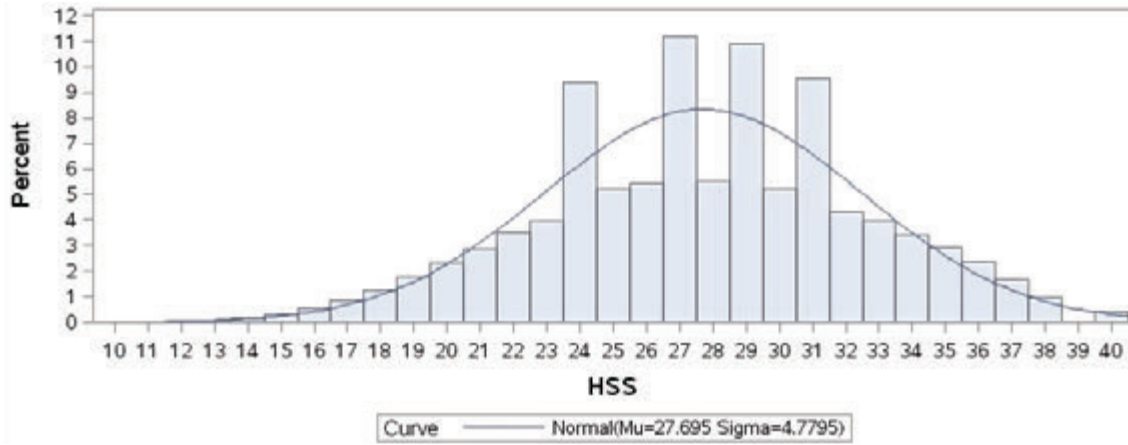


Figure A-6.25.5: Analysis in Science scale score distribution

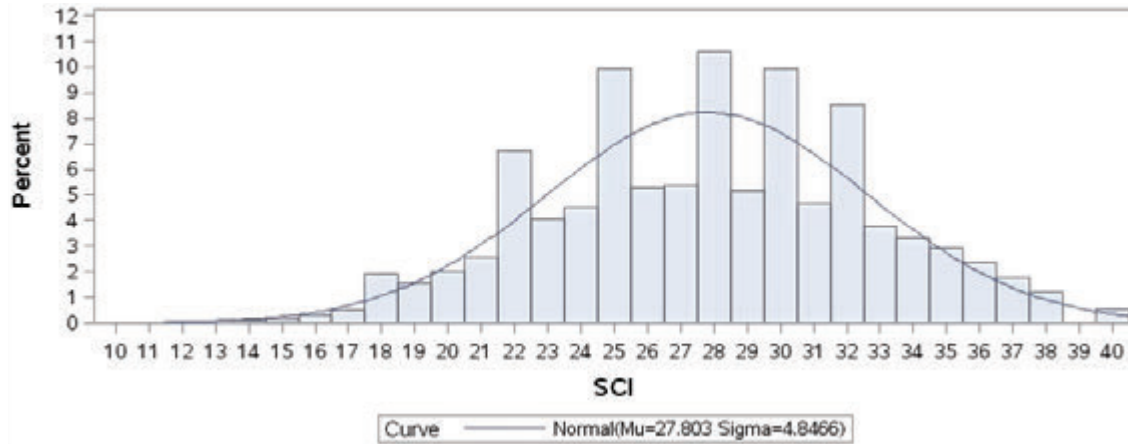


Figure A-6.25.6: Command of Evidence scale score distribution

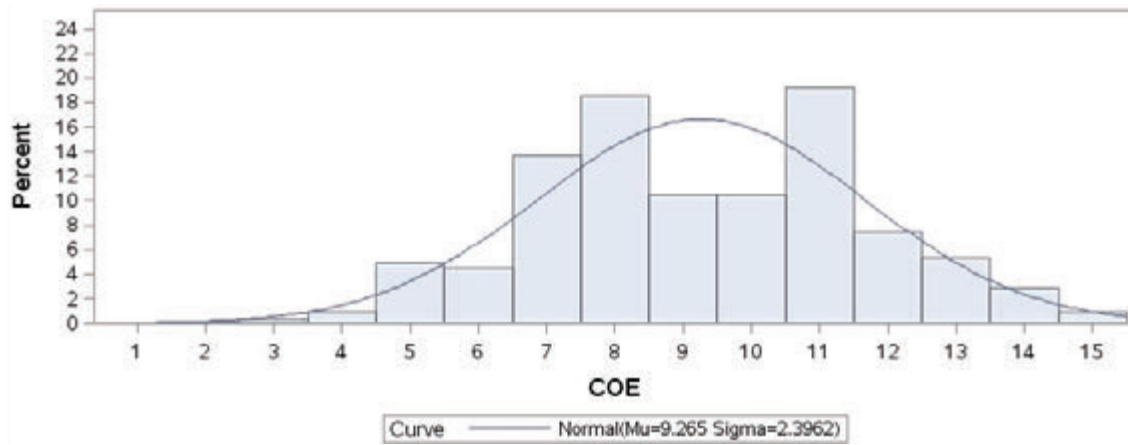


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Figure A-6.25.7: Words in Context scale score distribution

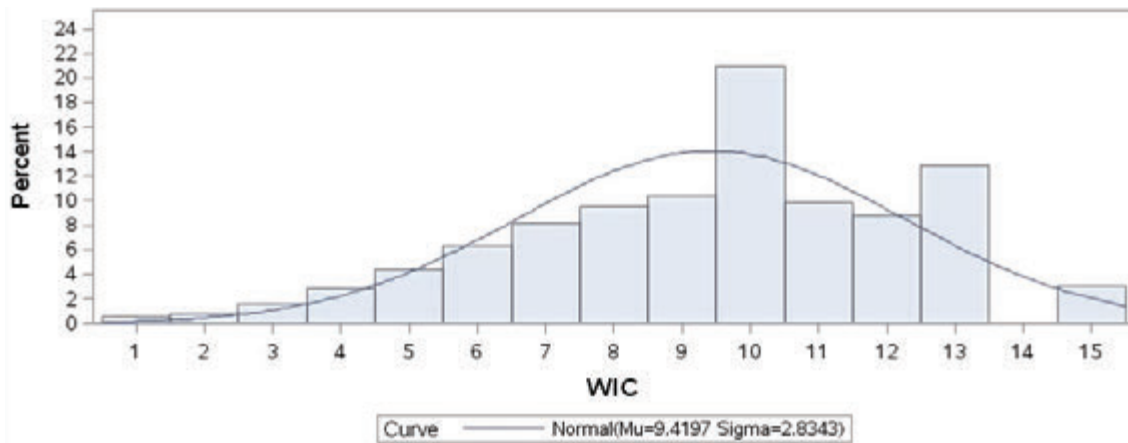


Figure A-6.25.8: Expression of Ideas scale score distribution

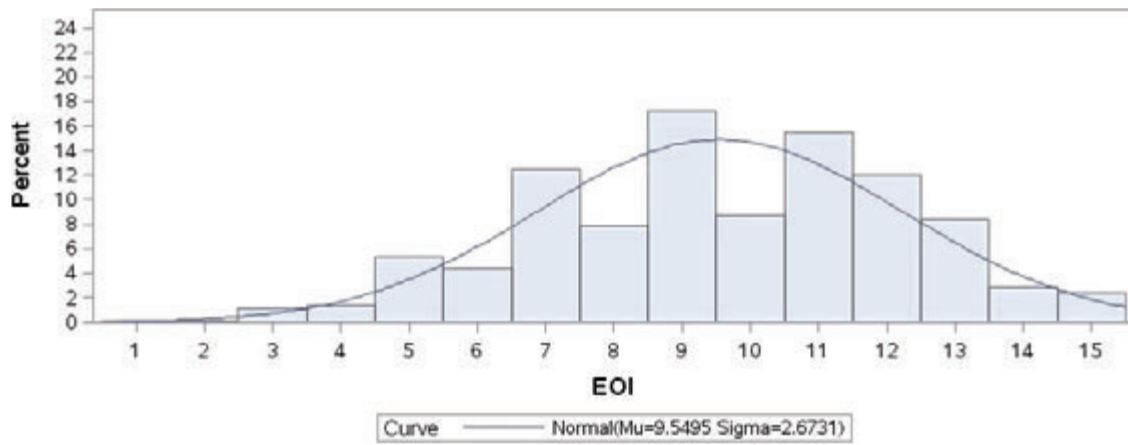


Figure A-6.25.9: Standard English Conventions scale score distribution

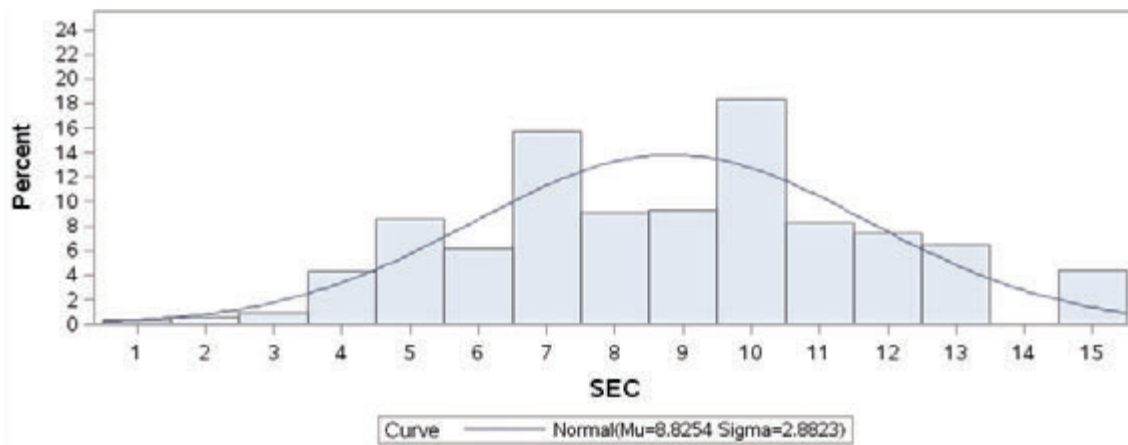


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Figure A-6.25.10: Heart of Algebra scale score distribution

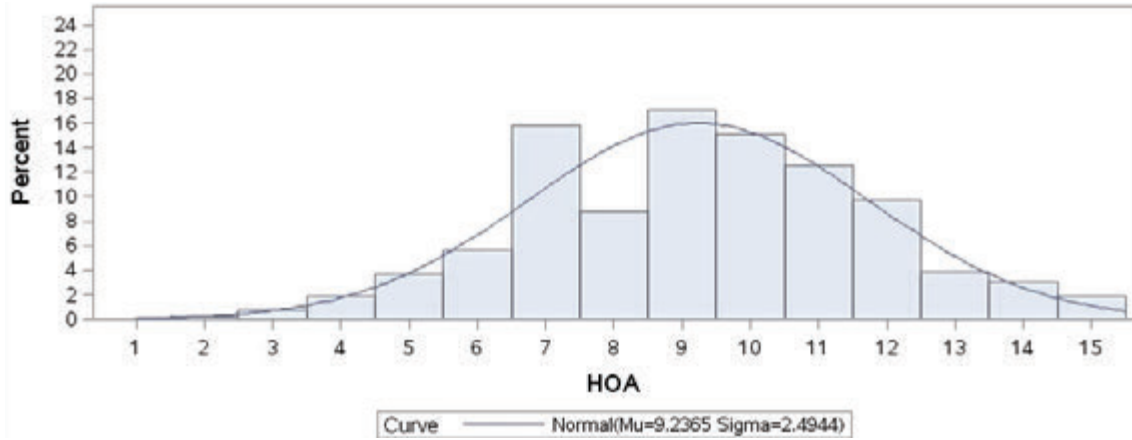


Figure A-6.25.11: Problem Solving and Data Analysis scale score distribution

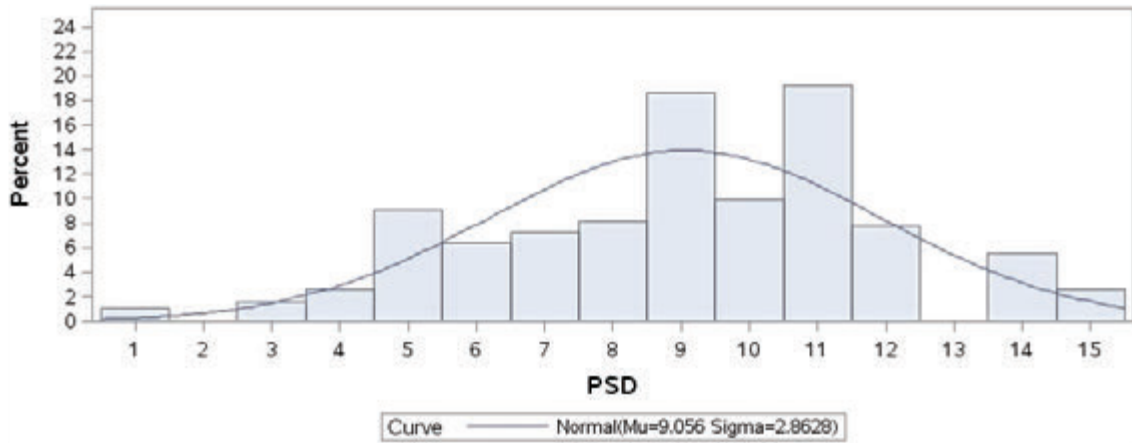


Figure A-6.25.12: Passport to Advanced Math scale score distribution

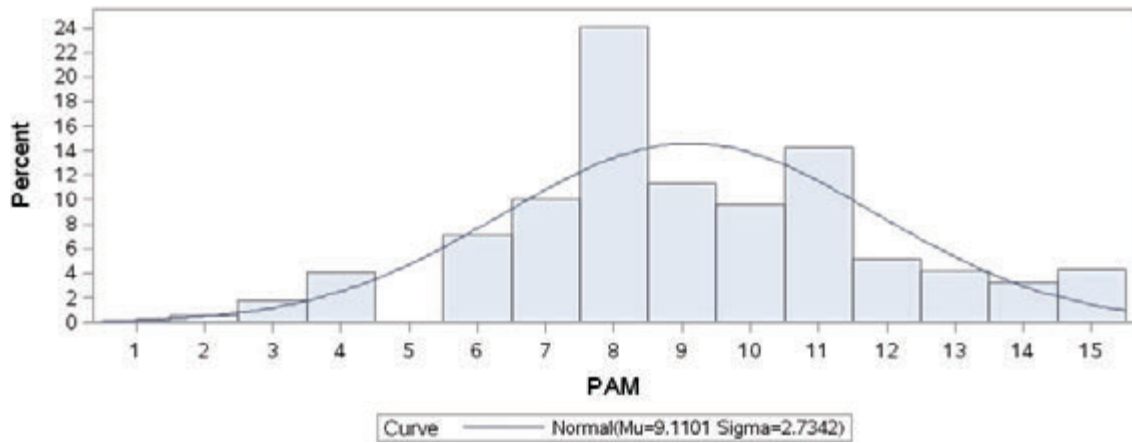


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Figure A-6.25.13: Evidence-Based Reading and Writing scale score distribution

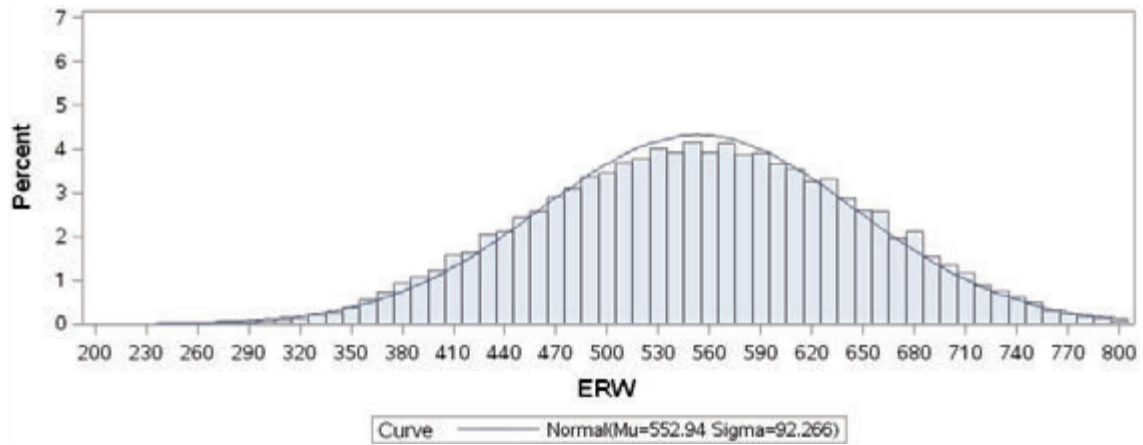


Figure A-6.25.14: Math section scale score distribution

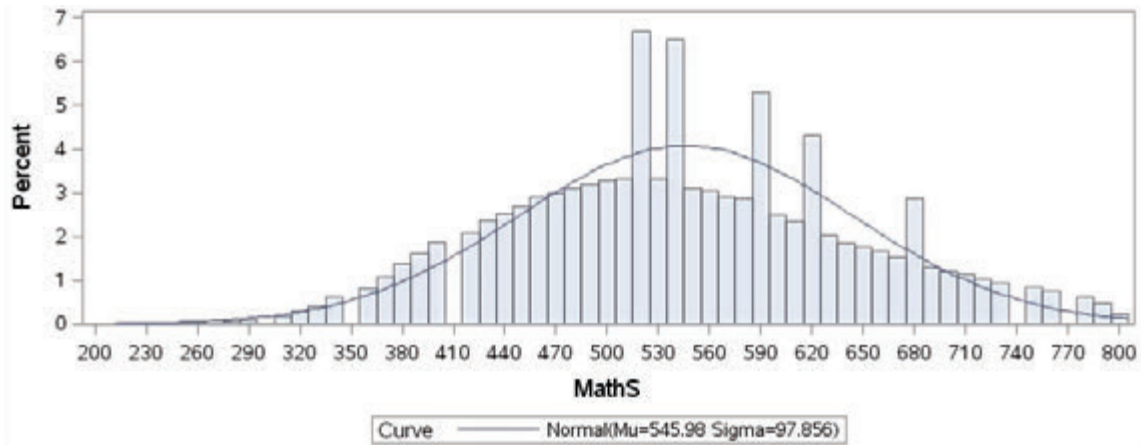


Figure A-6.25.15: Total scale score distribution

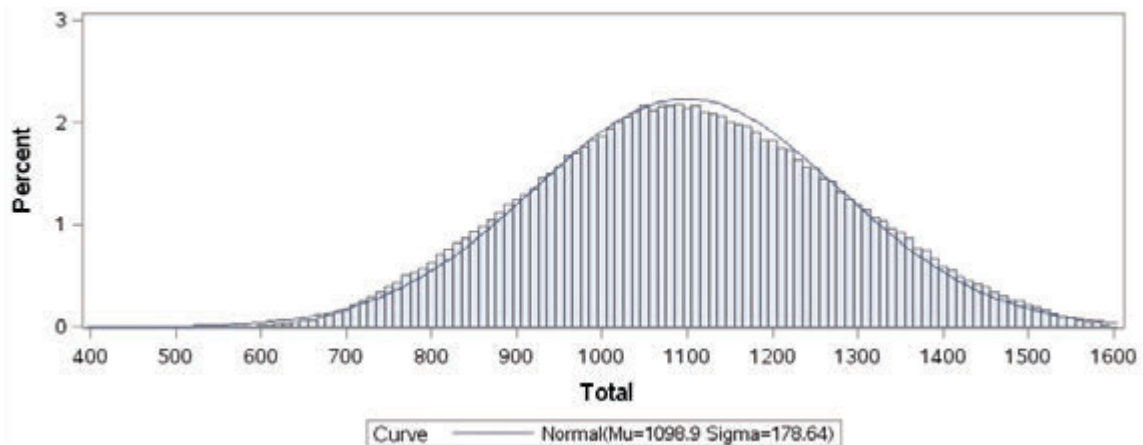


Figure A-6.26: Scale score distributions for PSAT/NMSQT and PSAT 10 Form 1

Figure A-6.26.1: Reading Test scale score distribution

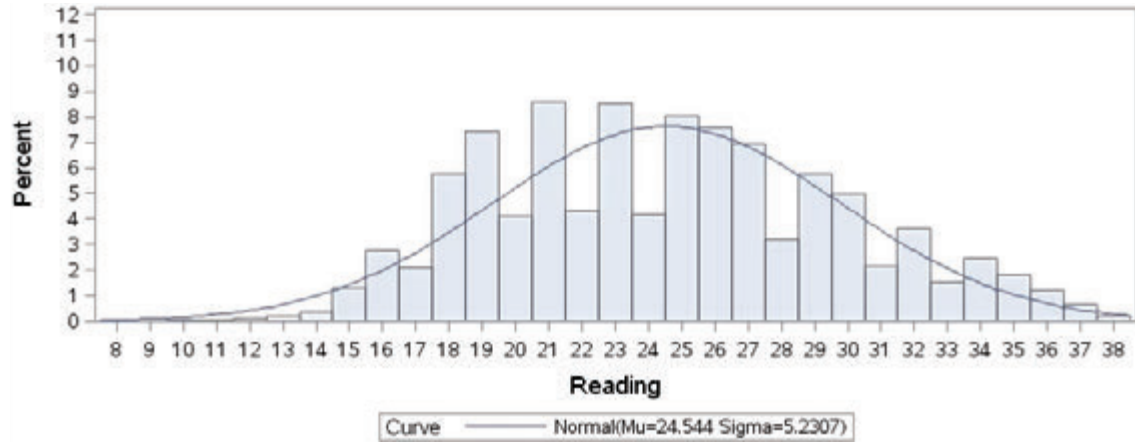


Figure A-6.26.2: Writing and Language Test scale score distribution

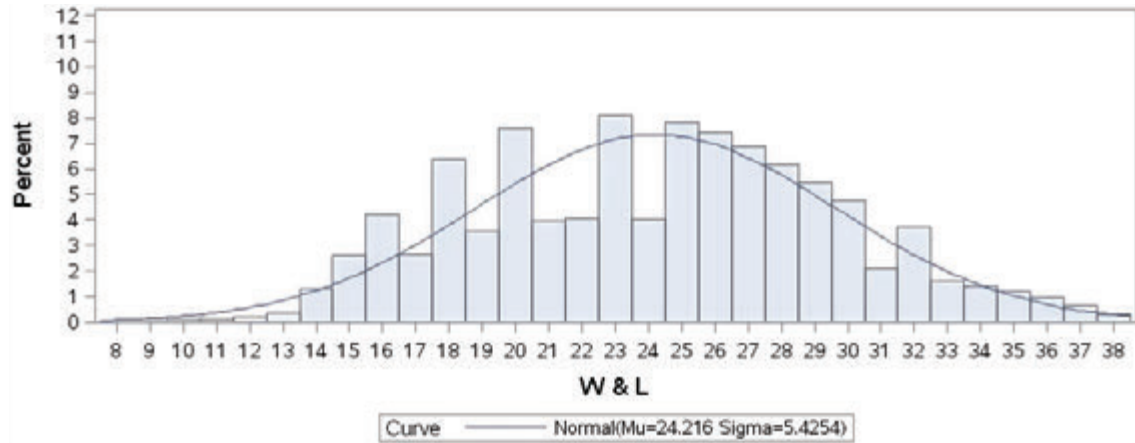


Figure A-6.26.3: Math Test scale score distribution

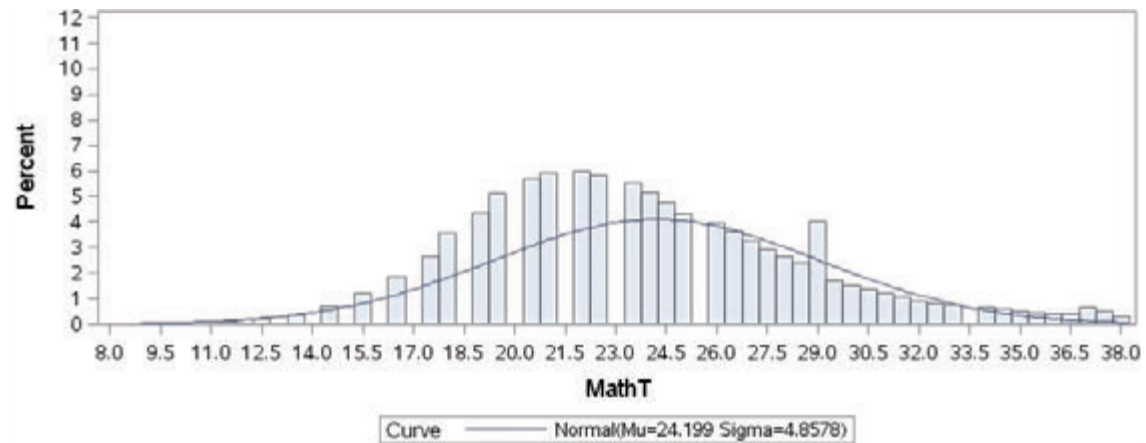


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Figure A-6.26.4: Analysis in History and Social Studies scale score distribution

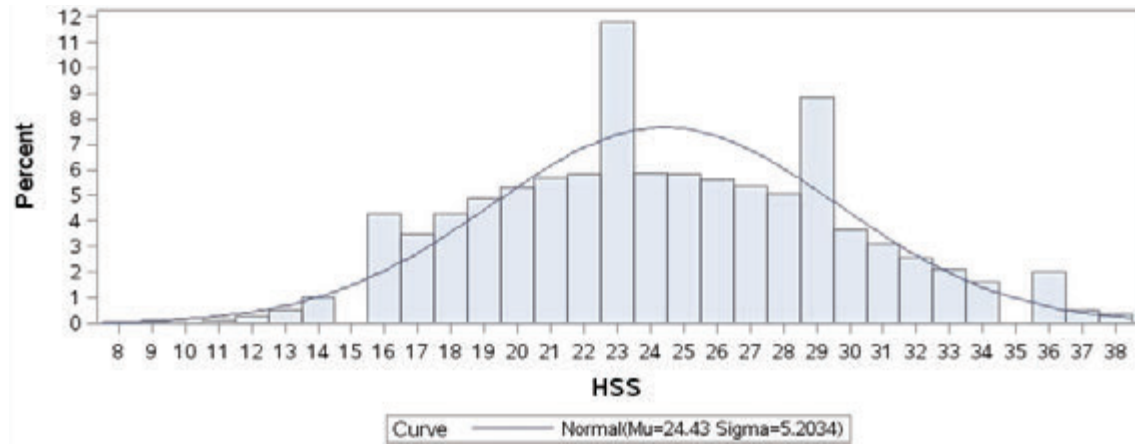


Figure A-6.26.5: Analysis in Science scale score distribution

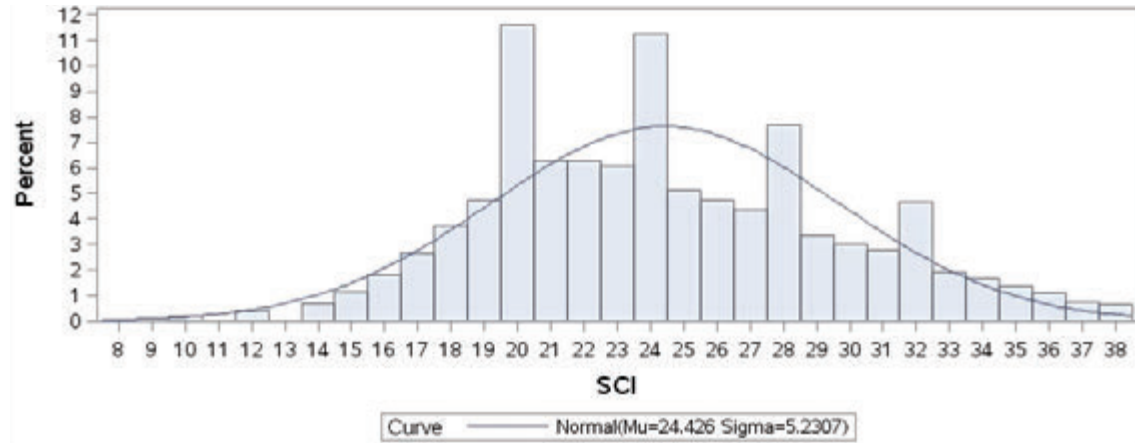


Figure A-6.26.6: Command of Evidence scale score distribution

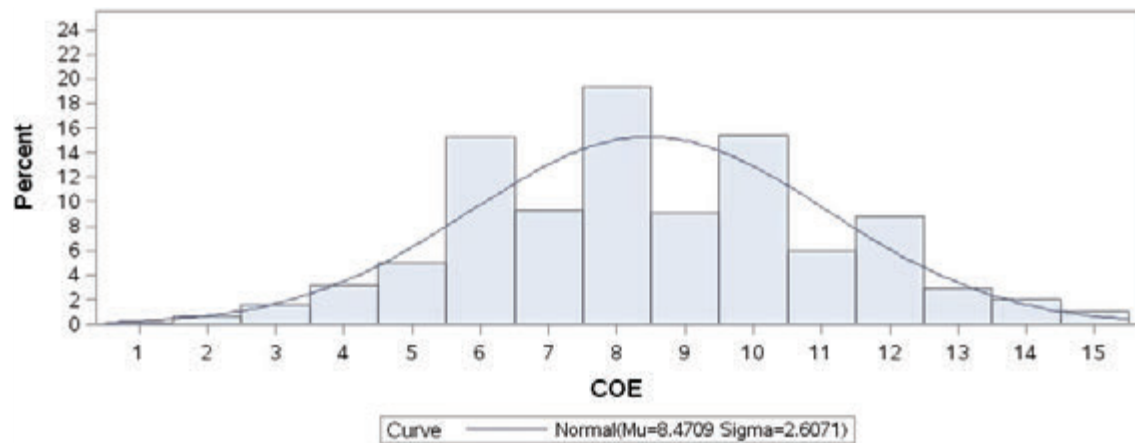


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Figure A-6.26.7: Words in Context scale score distribution

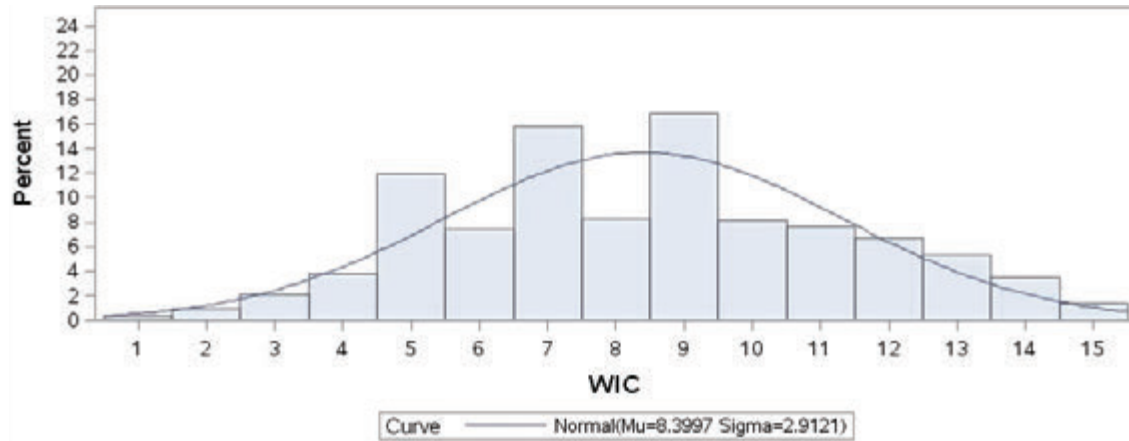


Figure A-6.26.8: Expression of Ideas scale score distribution

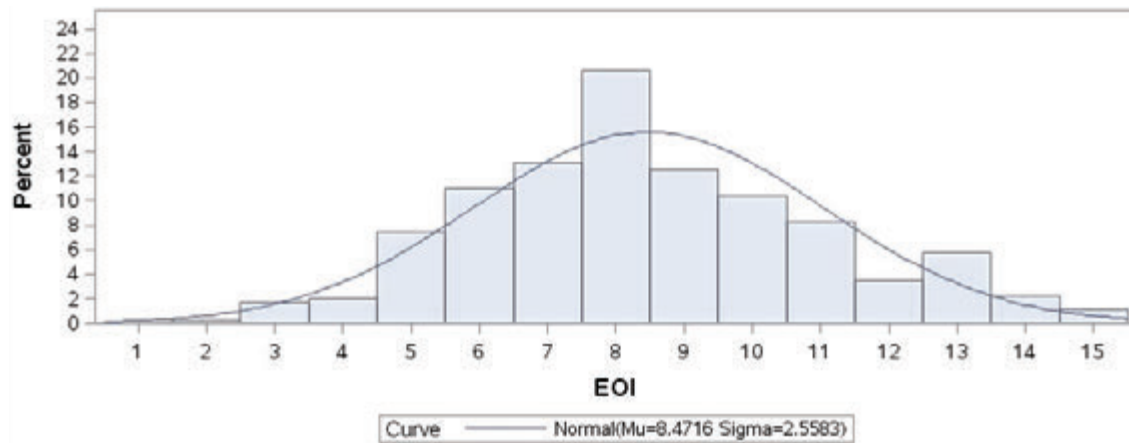


Figure A-6.26.9: Standard English Conventions scale score distribution

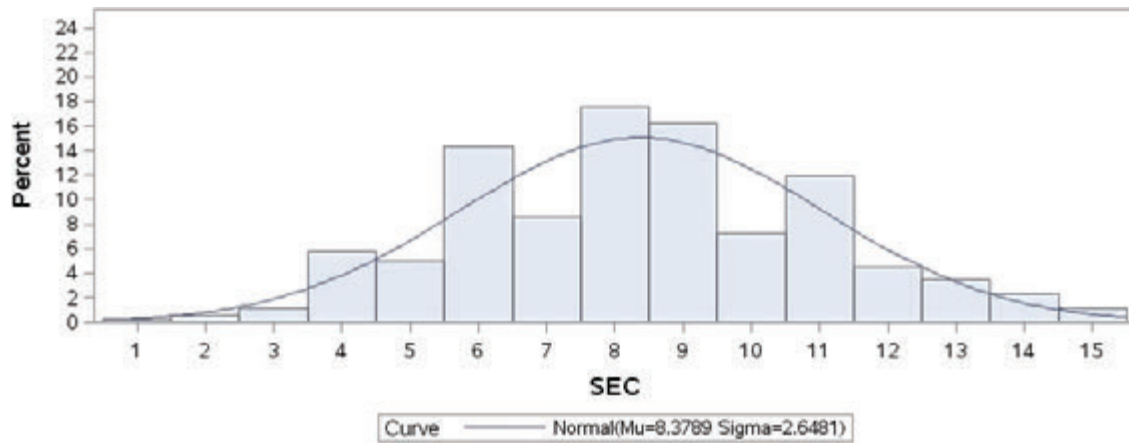


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Figure A-6.26.10: Heart of Algebra scale score distribution

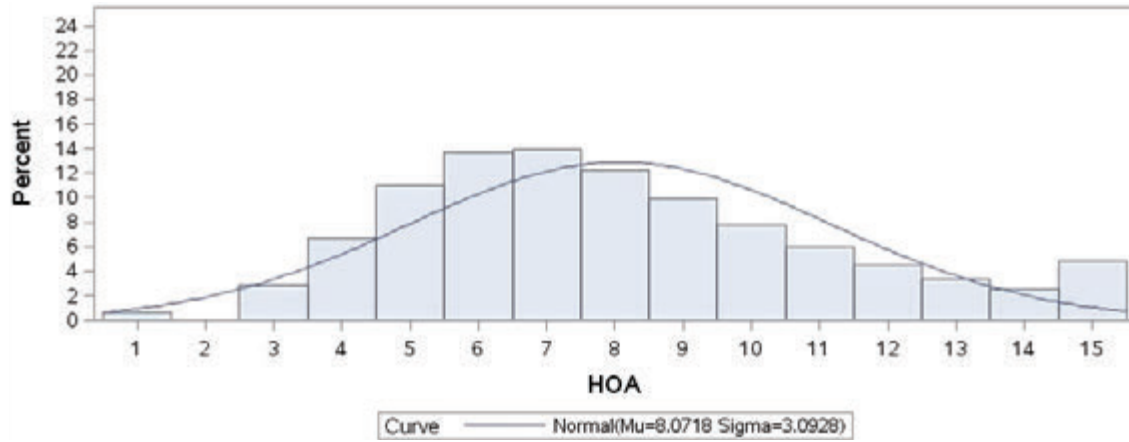


Figure A-6.26.11: Problem Solving and Data Analysis scale score distribution

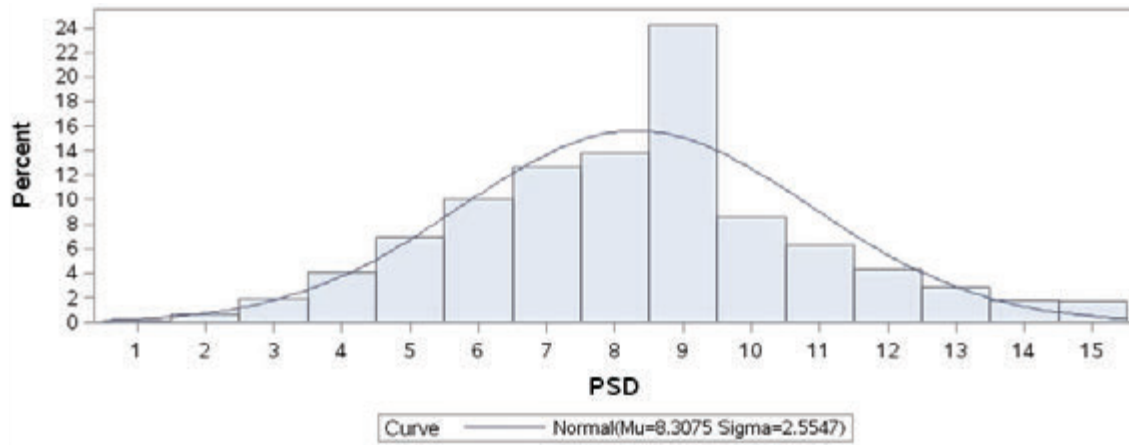


Figure A-6.26.12: Passport to Advanced Math scale score distribution

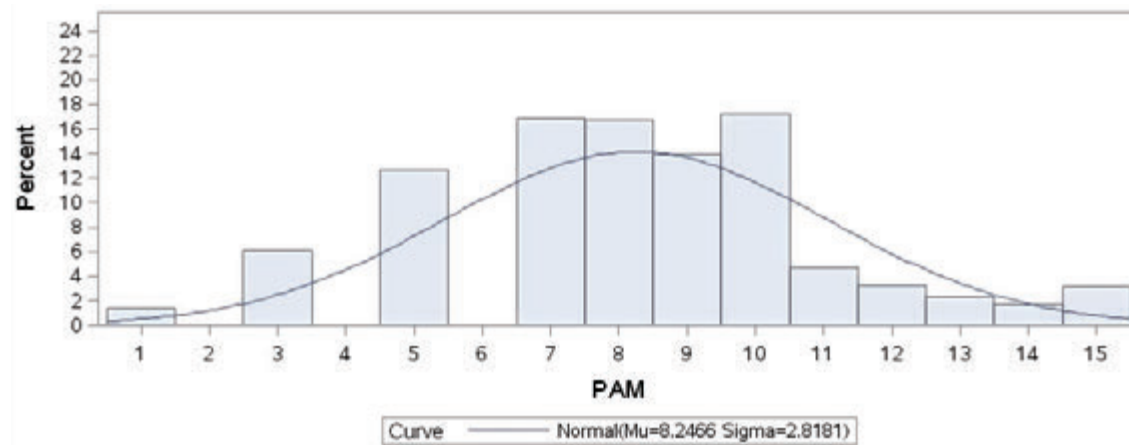


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Figure A-6.26.13: Evidence-Based Reading and Writing scale score distribution

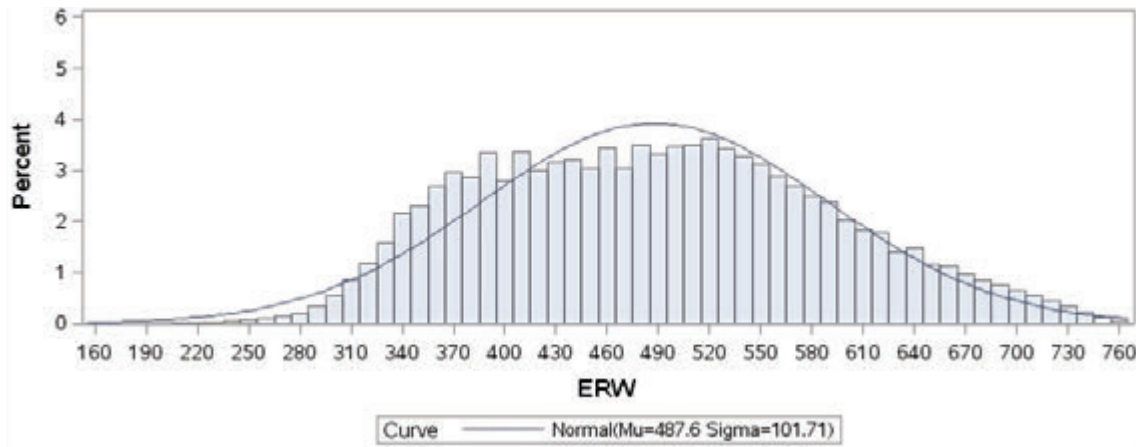


Figure A-6.26.14: Math section scale score distribution

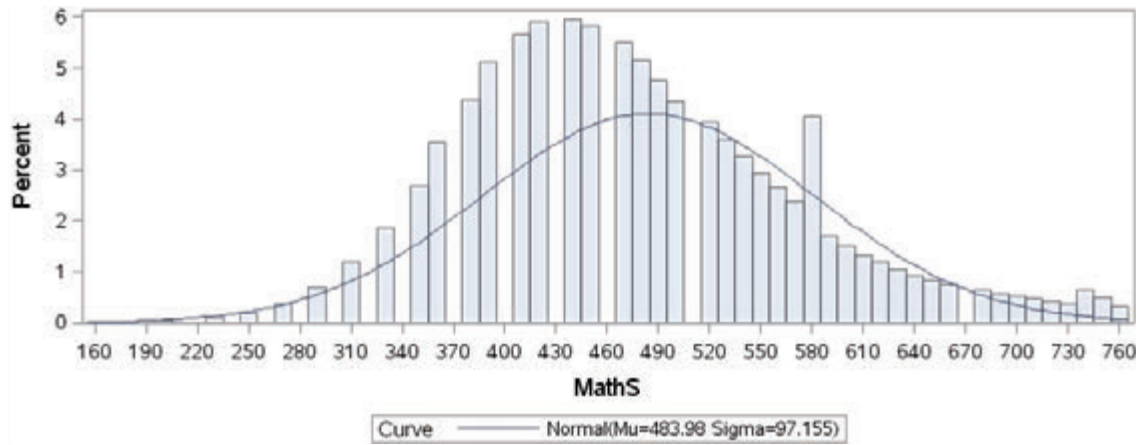


Figure A-6.26.15: Total scale score distribution

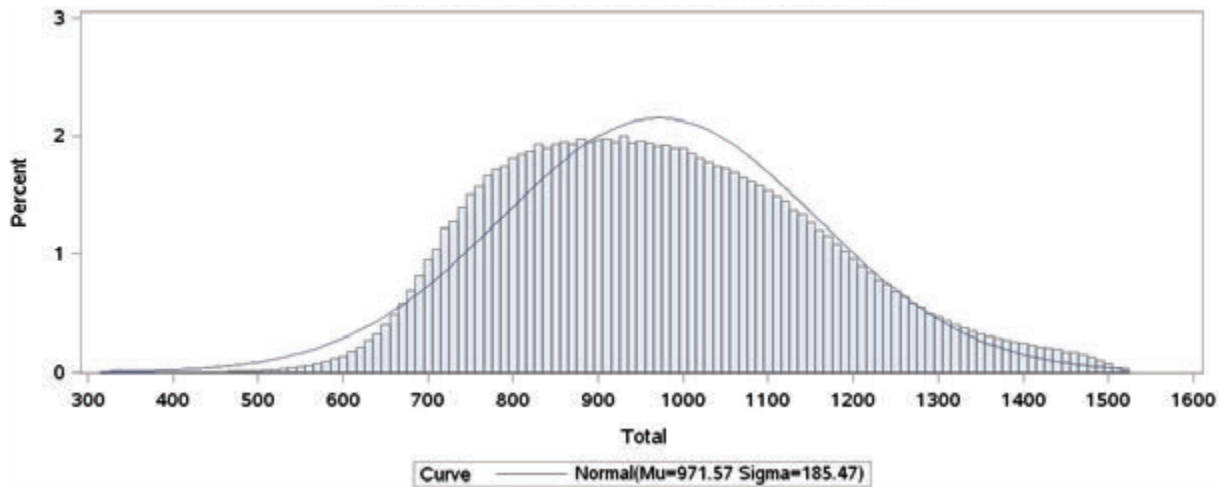


Figure A-6.27: Scale score distributions for PSAT/NMSQT and PSAT 10 Form 2

Figure A-6.27.1: Reading Test scale score distribution

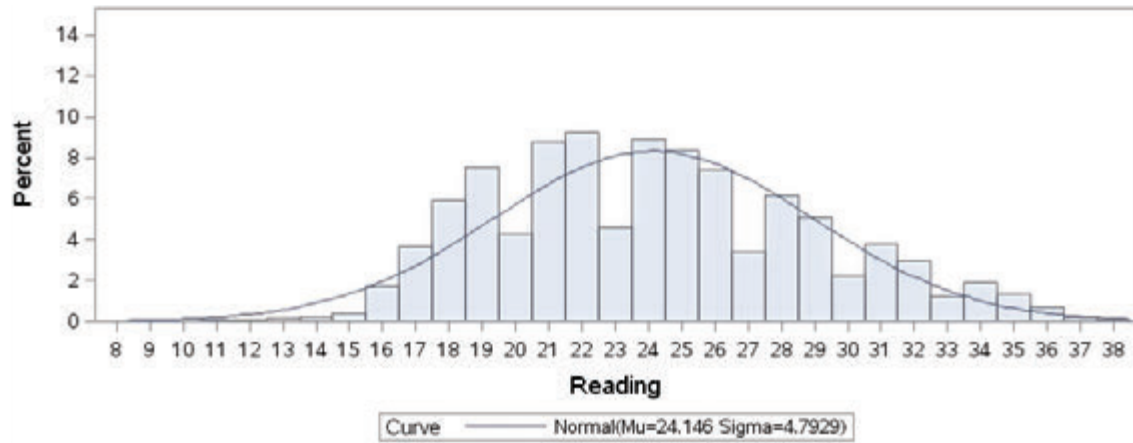


Figure A-6.27.2: Writing and Language Test scale score distribution

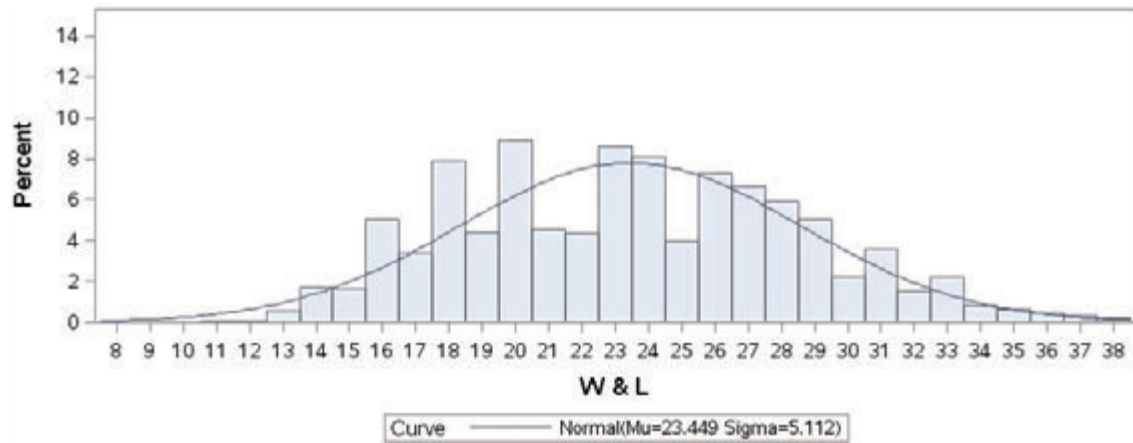


Figure A-6.27.3: Math Test scale score distribution

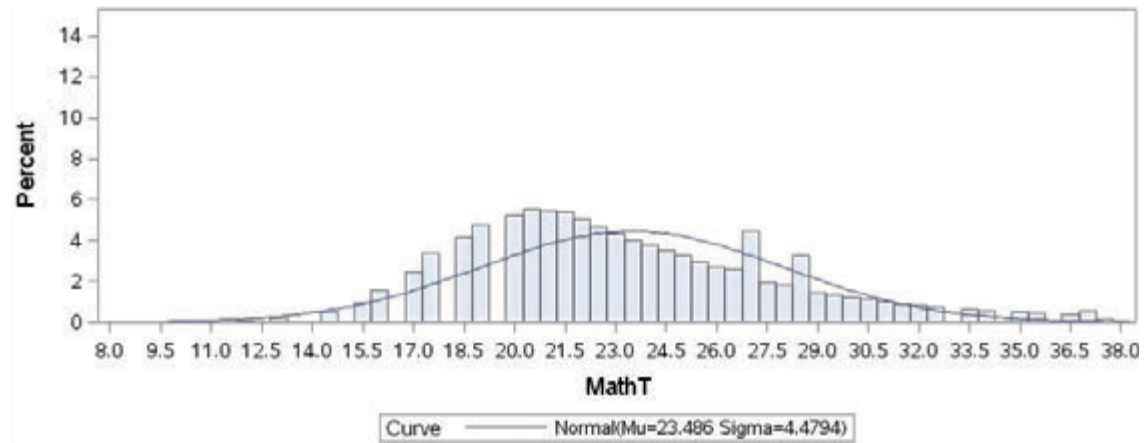


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Figure A-6.27.4: Analysis in History and Social Studies scale score distribution

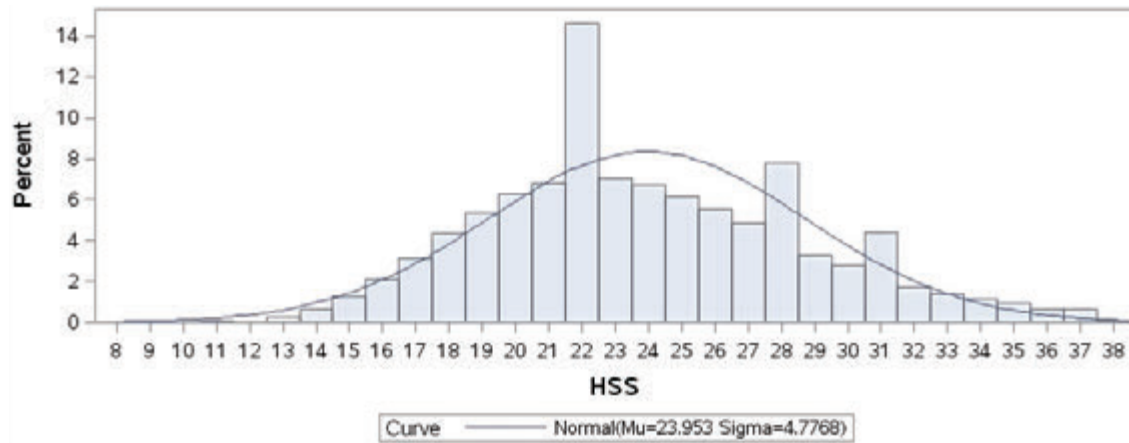


Figure A-6.27.5: Analysis in Science scale score distribution

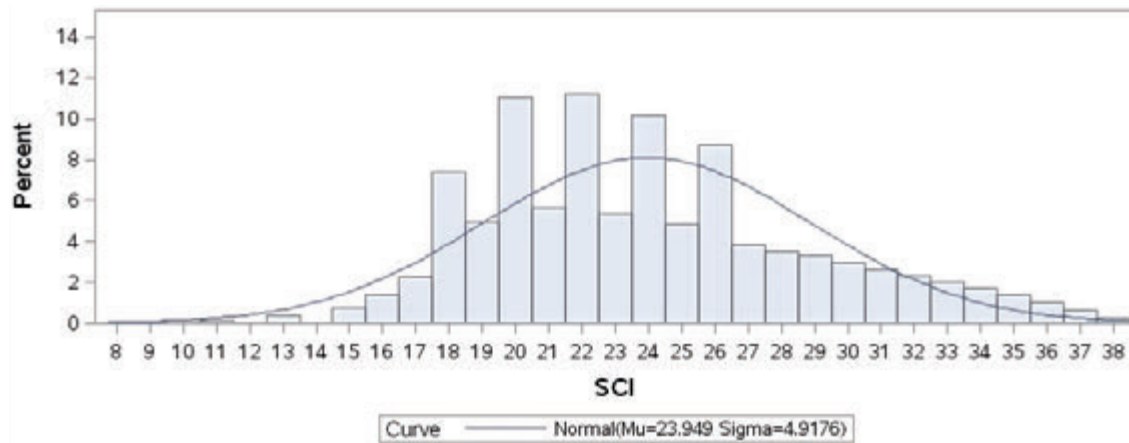


Figure A-6.27.6: Command of Evidence scale score distribution

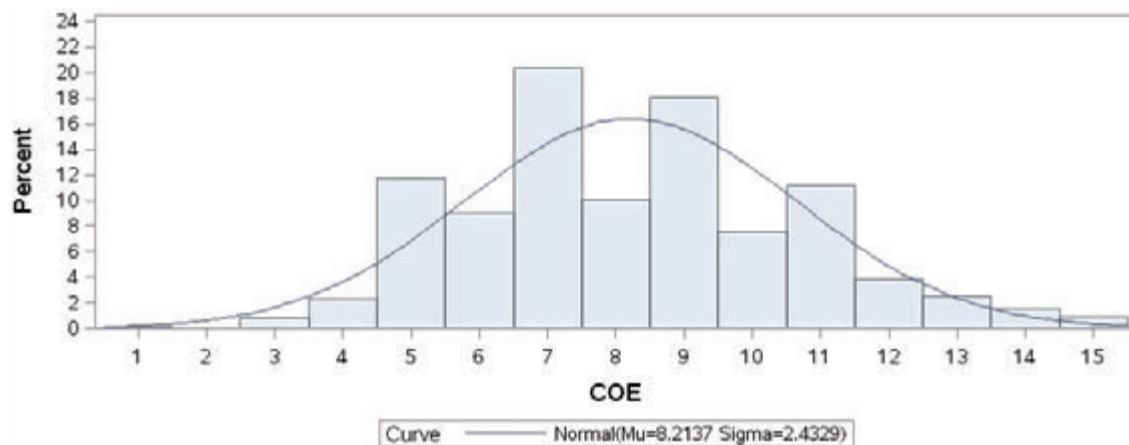


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Figure A-6.27.7: Words in Context scale score distribution

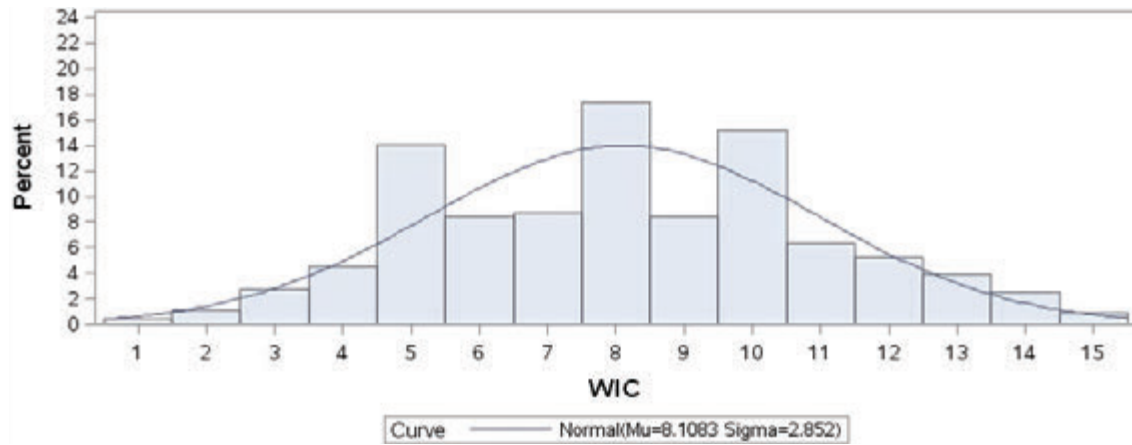


Figure A-6.27.8: Expression of Ideas scale score distribution

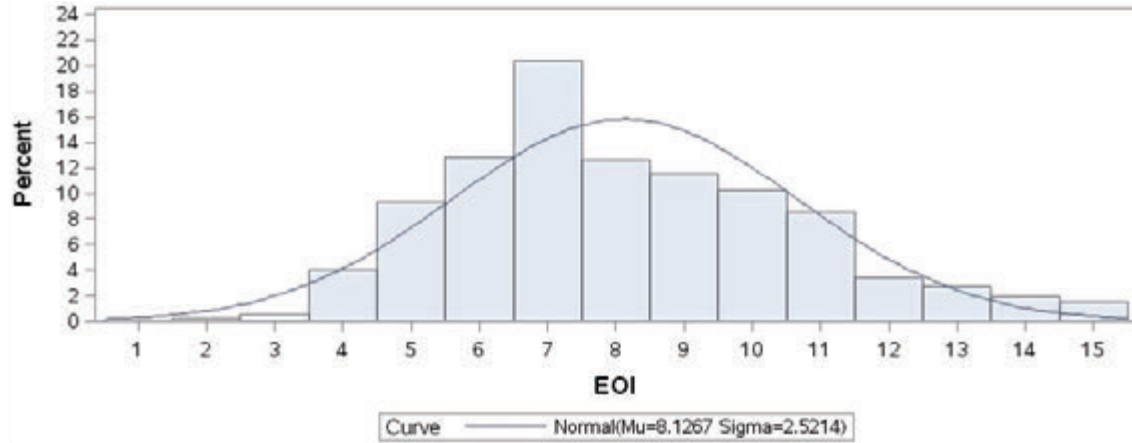


Figure A-6.27.9: Standard English Conventions scale score distribution

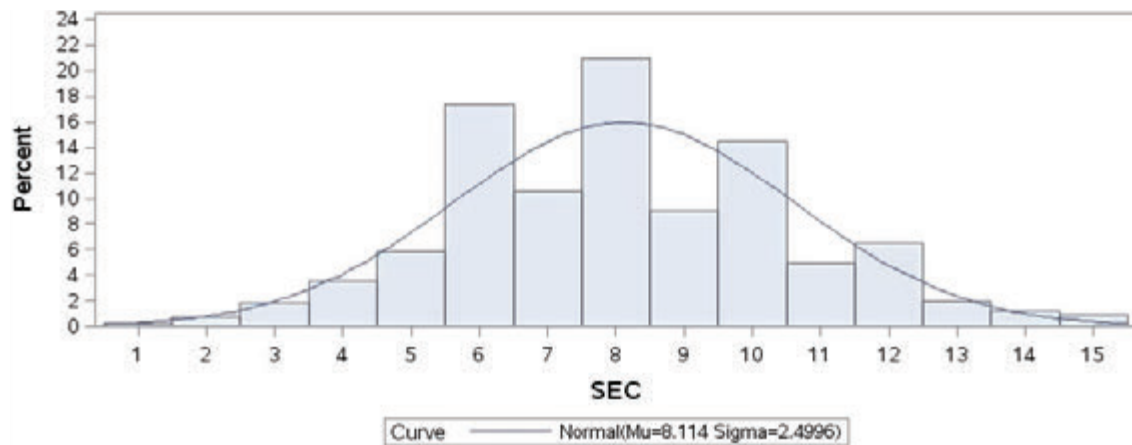


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Figure A-6.27.10: Heart of Algebra scale score distribution

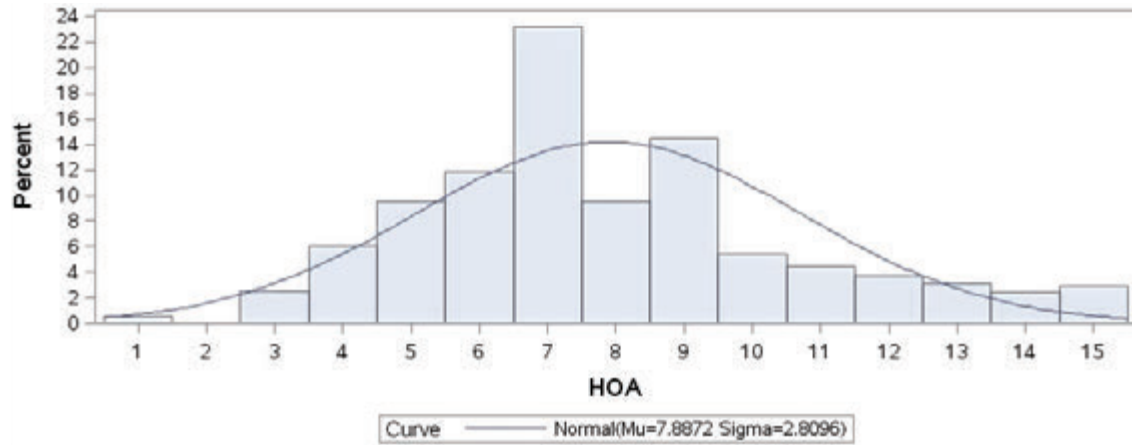


Figure A-6.27.11: Problem Solving and Data Analysis scale score distribution

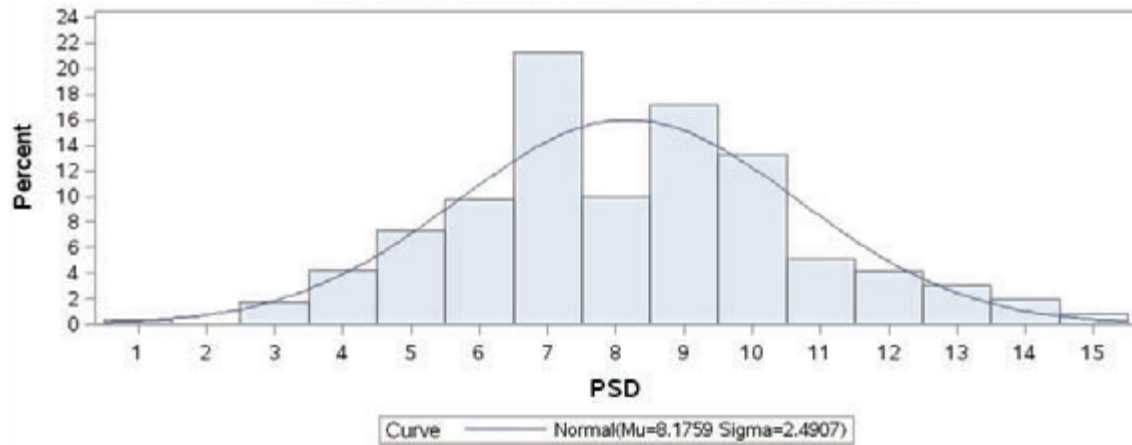


Figure A-6.27.12: Passport to Advanced Math scale score distribution

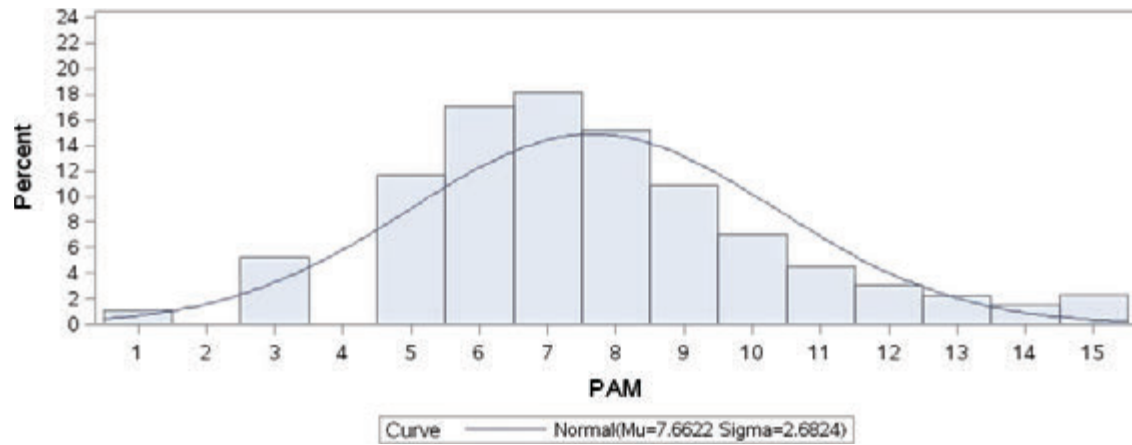


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Figure A-6.27.13: Evidence-Based Reading and Writing scale score distribution

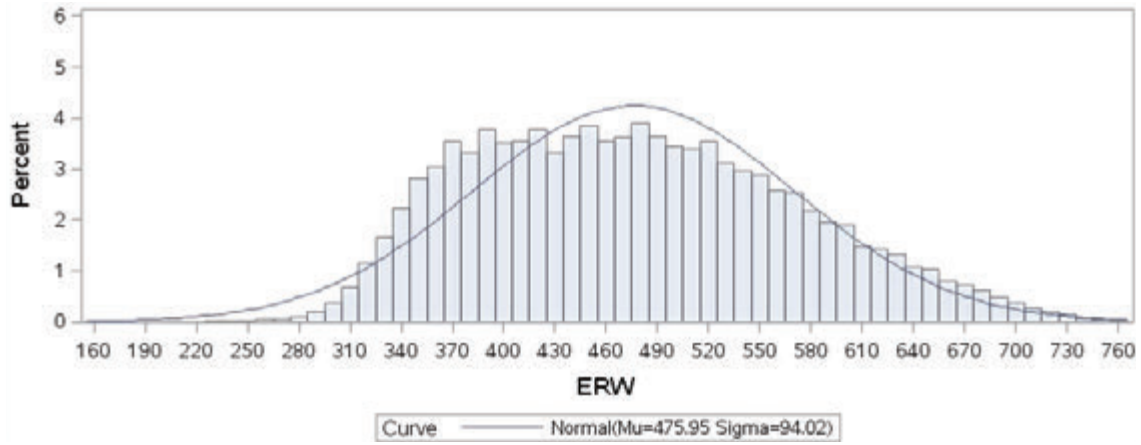


Figure A-6.27.14: Math section scale score distribution

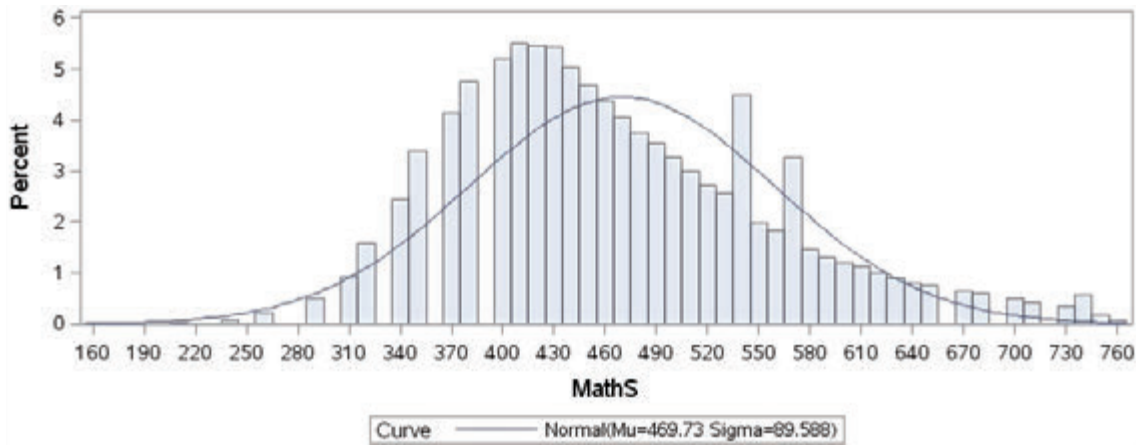


Figure A-6.27.15: Total scale score distribution

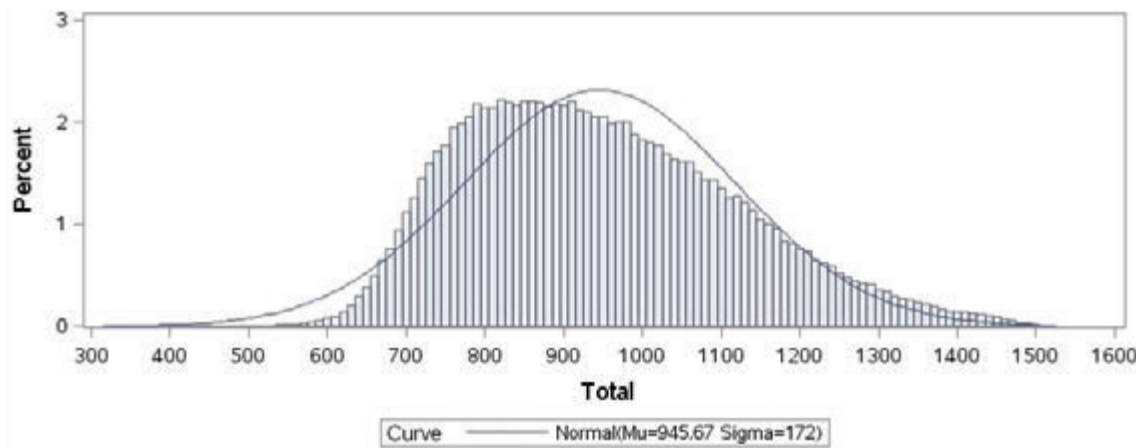


Figure A-6.28: Scale score distributions for PSAT 8/9 Form 1

Figure A-6.28.1: Reading Test scale score distribution

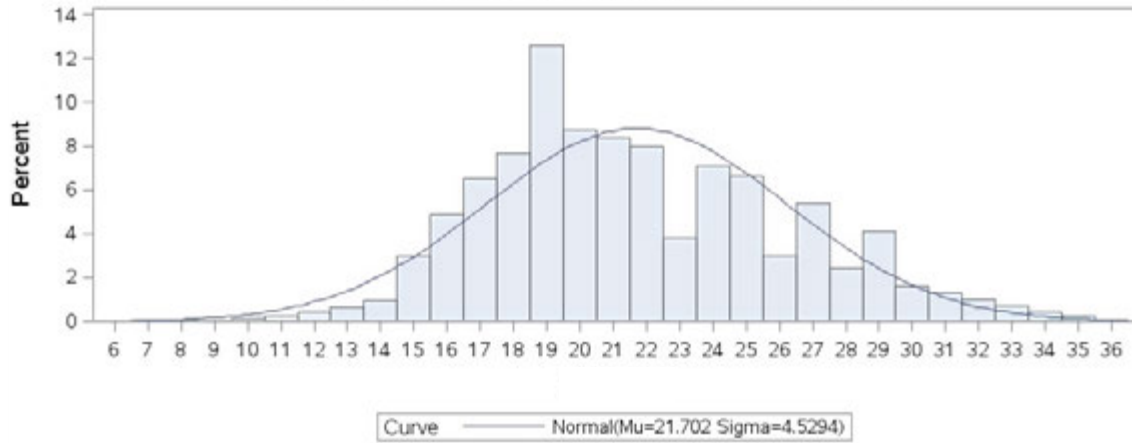


Figure A-6.28.2: Writing and Language Test scale score distribution

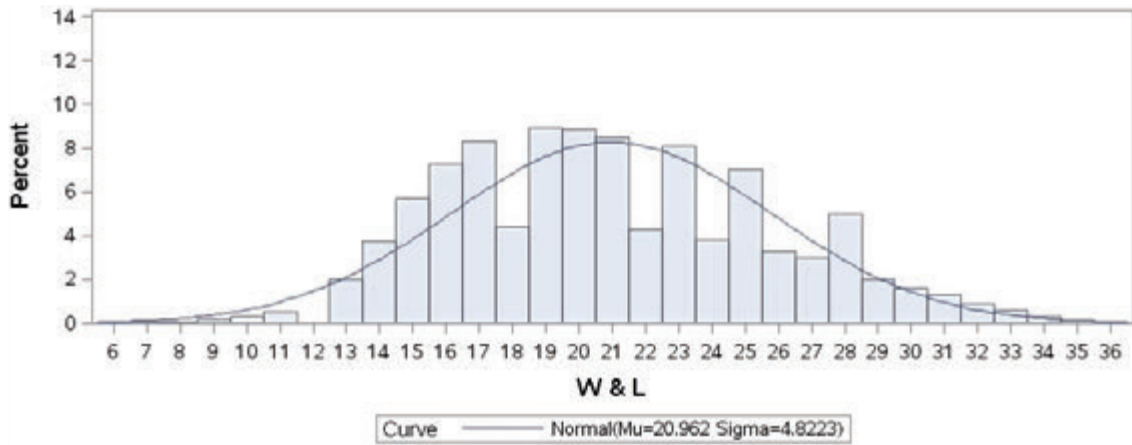


Figure A-6.28.3: Math Test scale score distribution

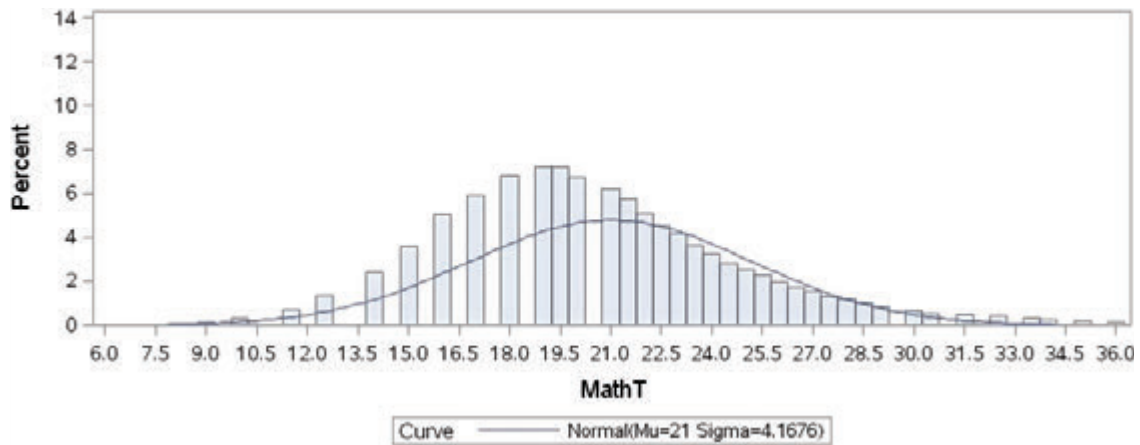


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Figure A-6.28.4: Analysis in History and Social Studies scale score distribution

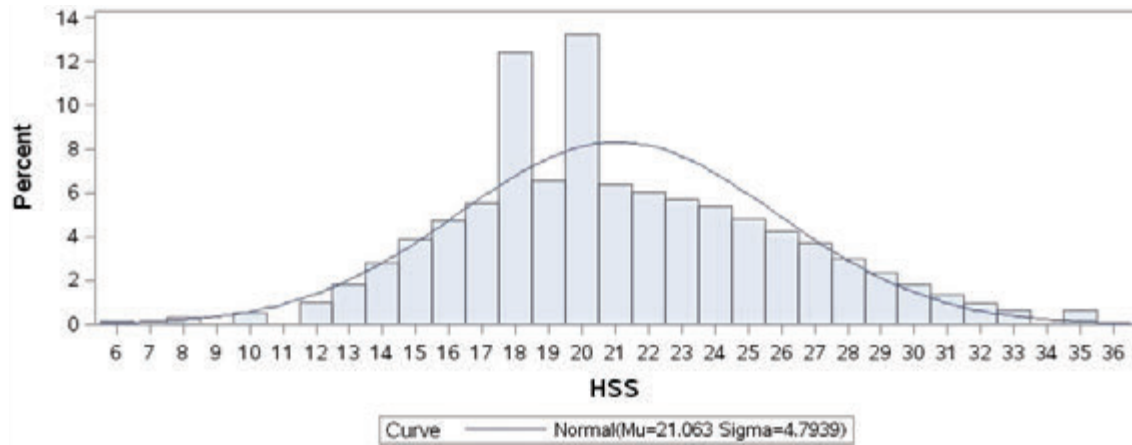


Figure A-6.28.5: Analysis in Science scale score distribution

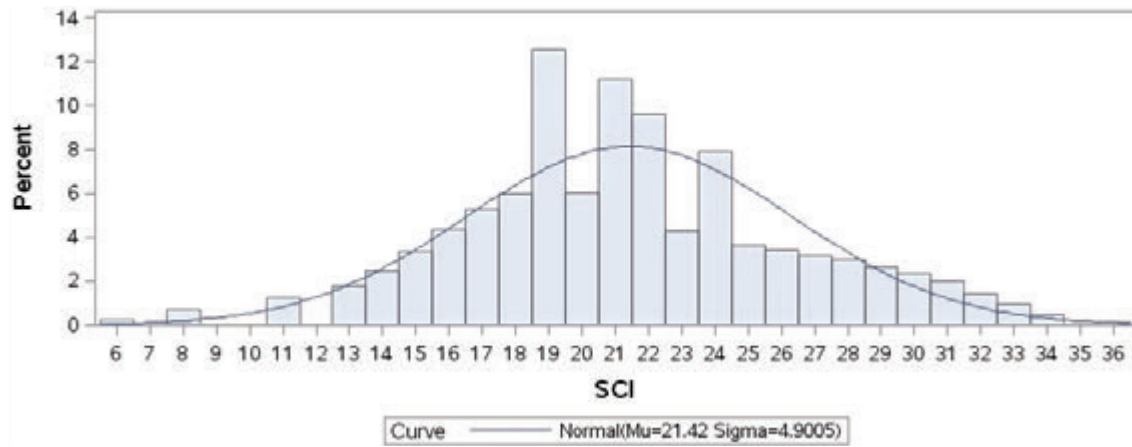


Figure A-6.28.6: Command of Evidence Scale Score Distribution

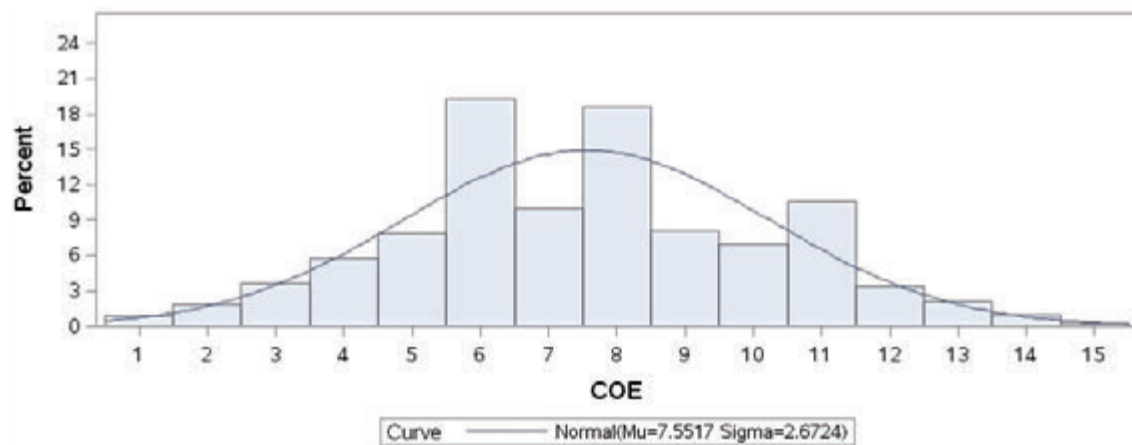


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Figure A-6.28.7: Words in Context scale score distribution

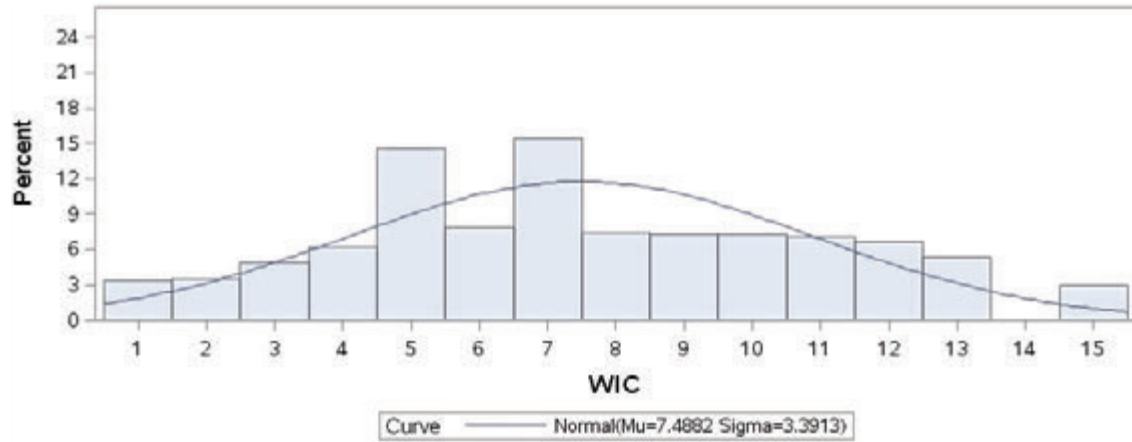


Figure A-6.28.8: Expression of Ideas scale score distribution

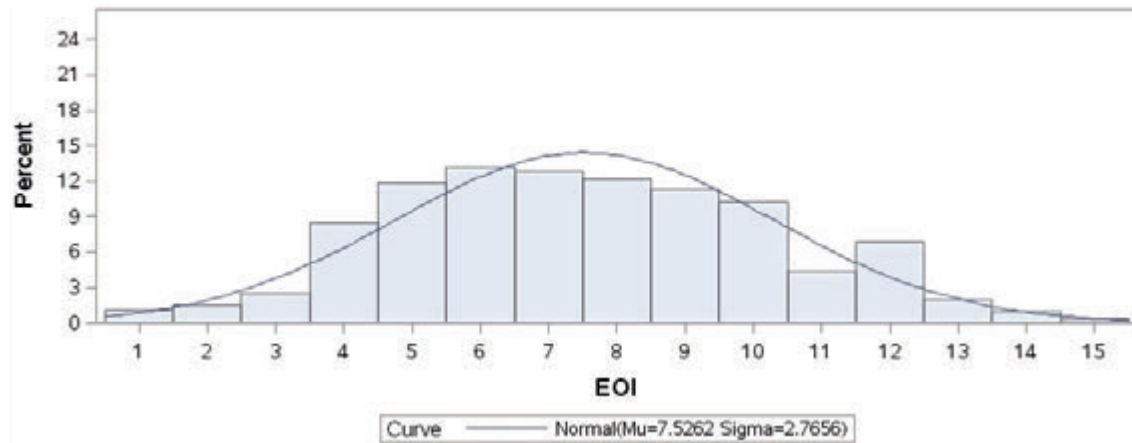


Figure A-6.28.9: Standard English Conventions scale score distribution

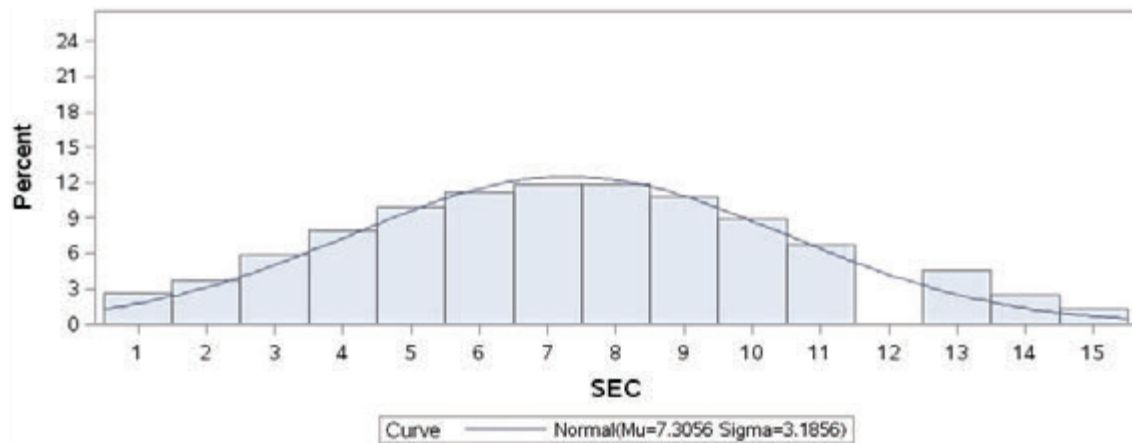


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Figure A-6.28.10: Heart of Algebra scale score distribution

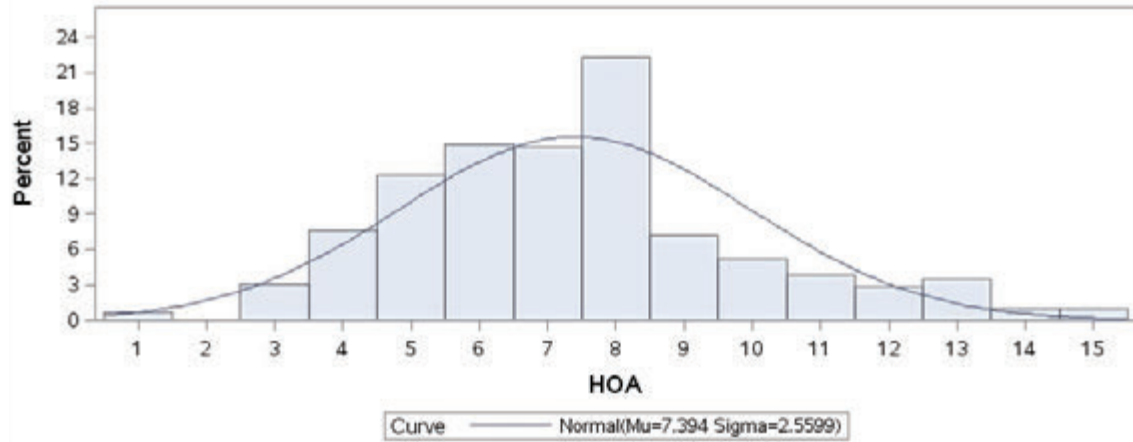


Figure A-6.28.11: Problem Solving and Data Analysis scale score distribution

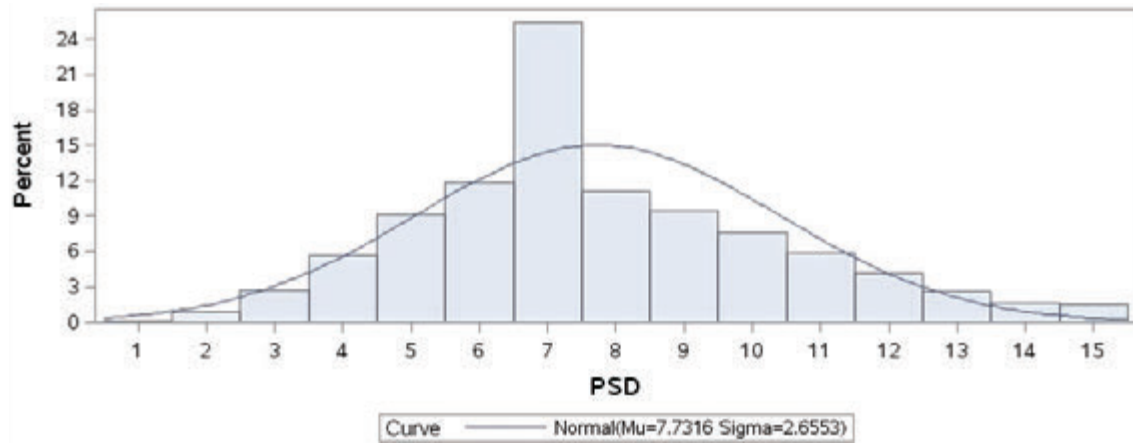


Figure A-6.28.12: Evidence-Based Reading and Writing scale score distribution

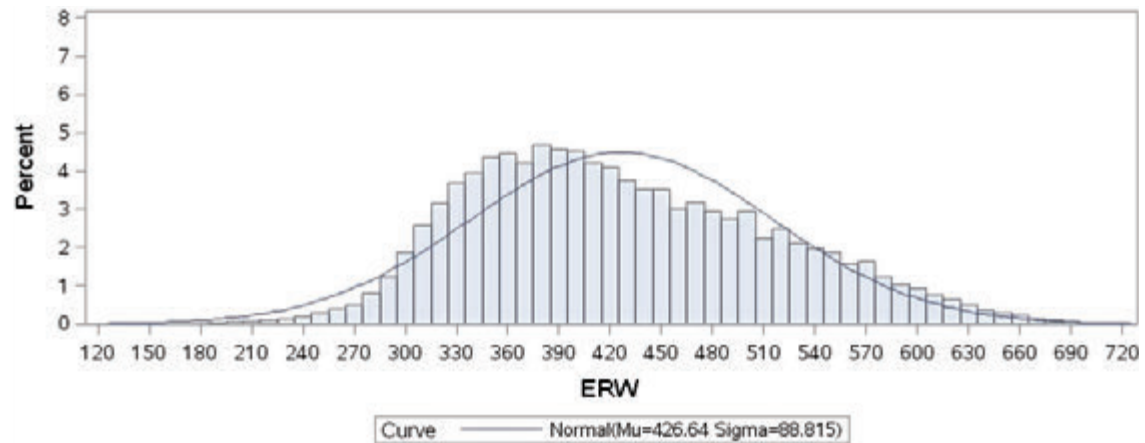


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Figure A-6.28.13: Math section scale score distribution

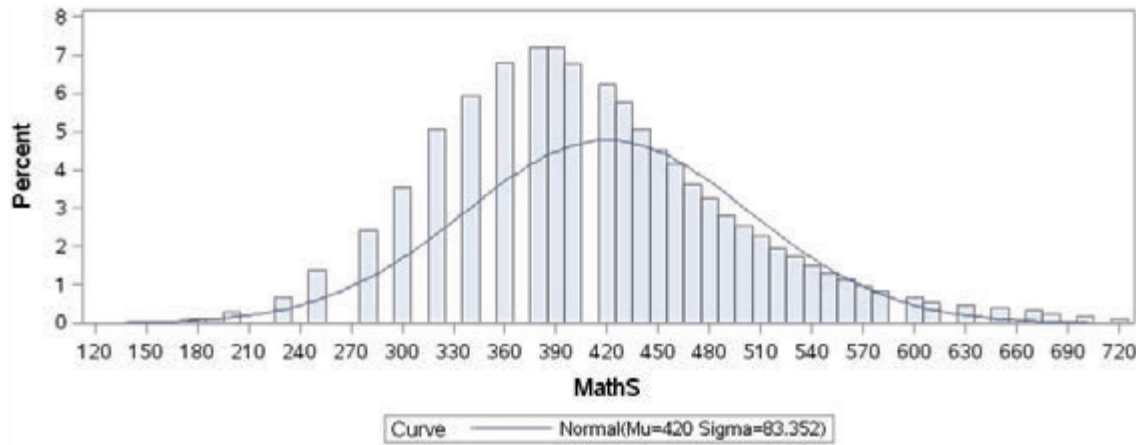


Figure A-6.28.14: Total scale score distribution

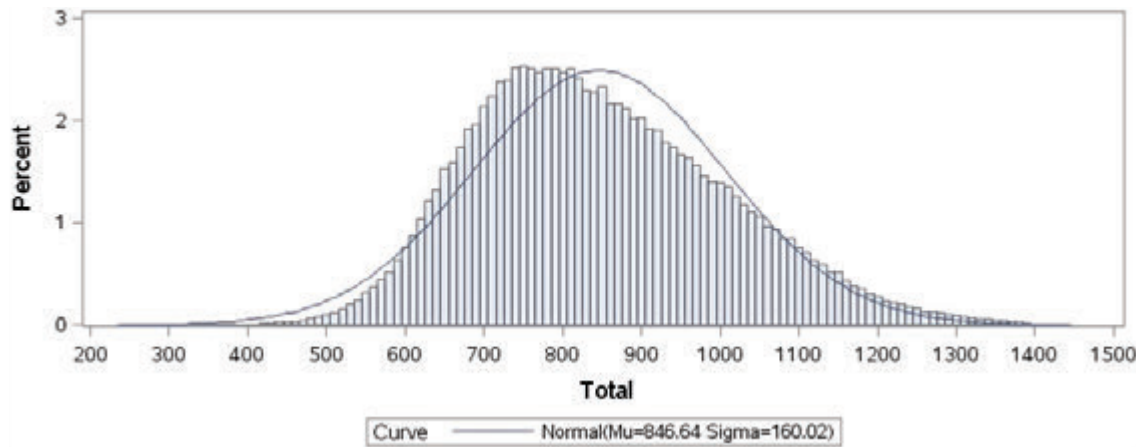


Figure A-6.29: Scale score distributions for PSAT 8/9 Form 2

Figure A-6.29.1: Reading Test scale score distribution

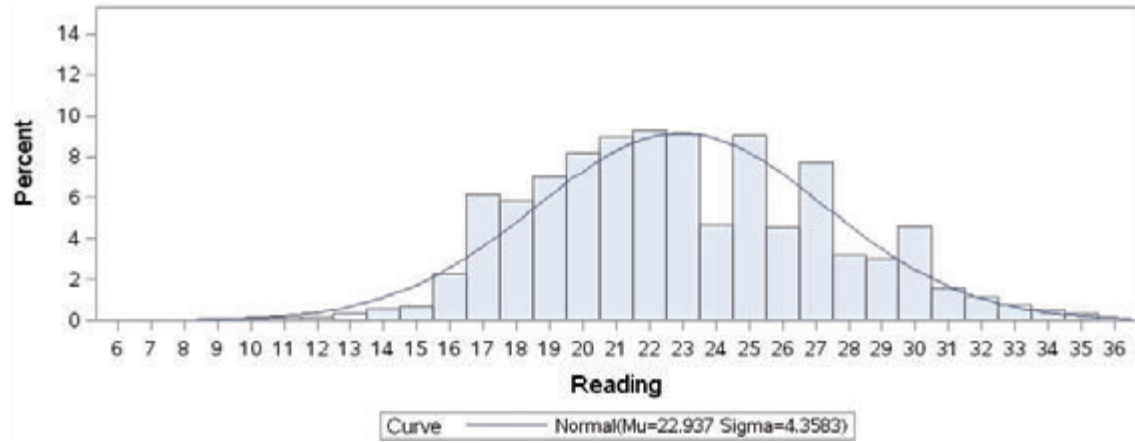


Figure A-6.29.2: Writing and Language Test scale score distribution

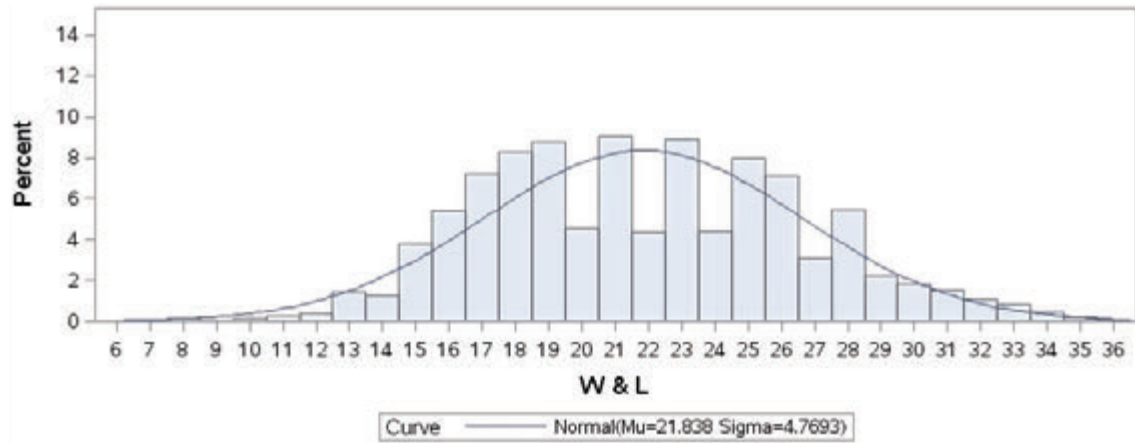


Figure A-6.29.3: Math Test scale score distribution

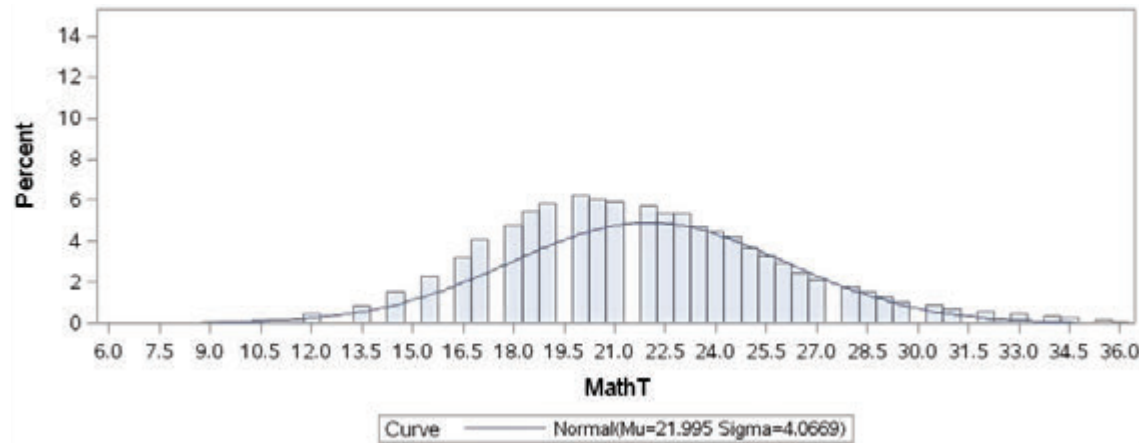


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Figure A-6.29.4: Analysis in History and Social Studies scale score distribution

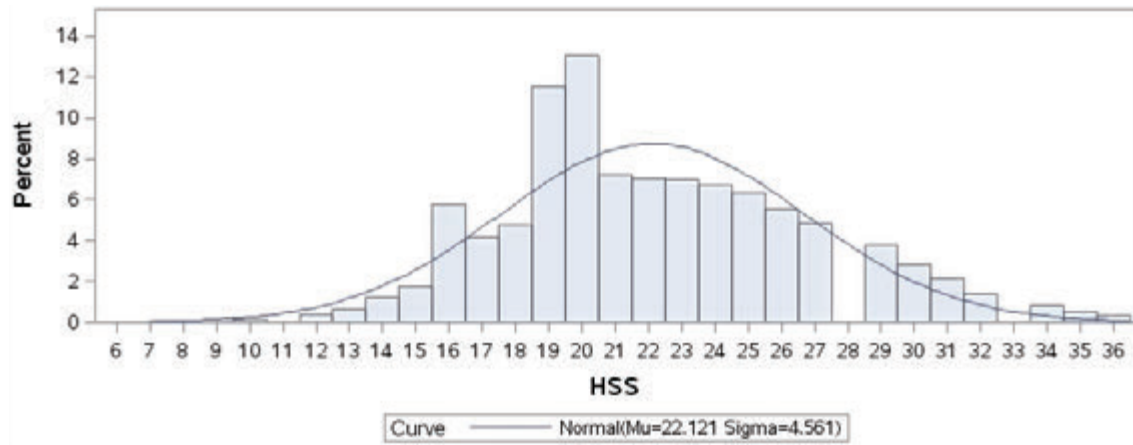


Figure A-6.29.5: Analysis in Science scale score distribution

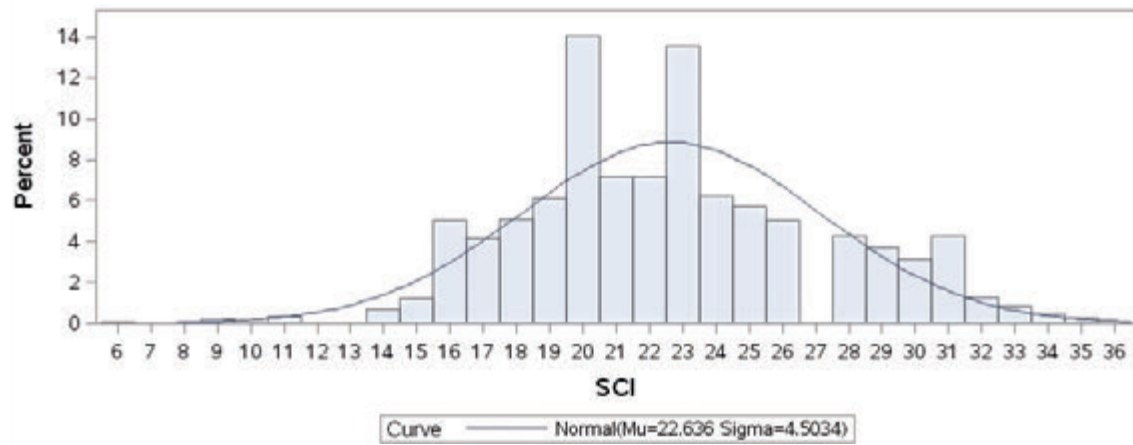


Figure A-6.29.6: Command of Evidence scale score distribution

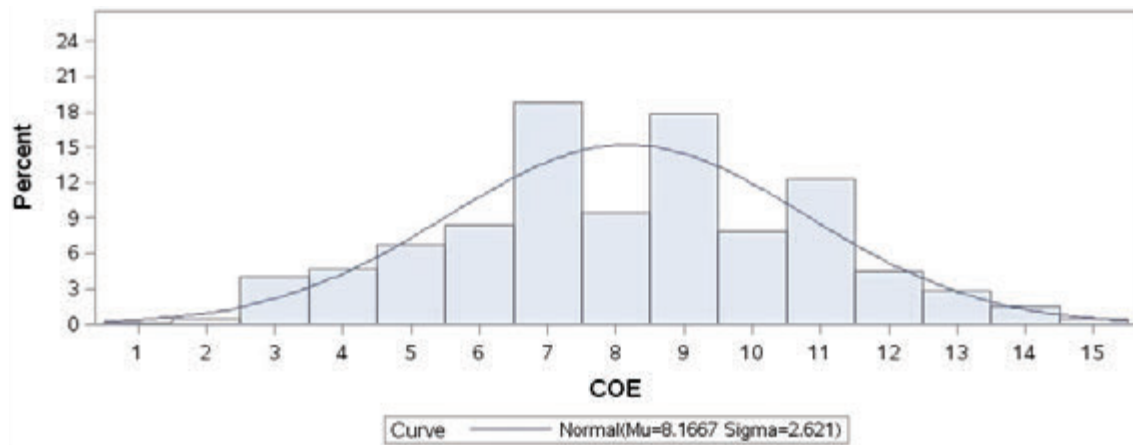


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Figure A-6.29.7: Words in Context scale score distribution

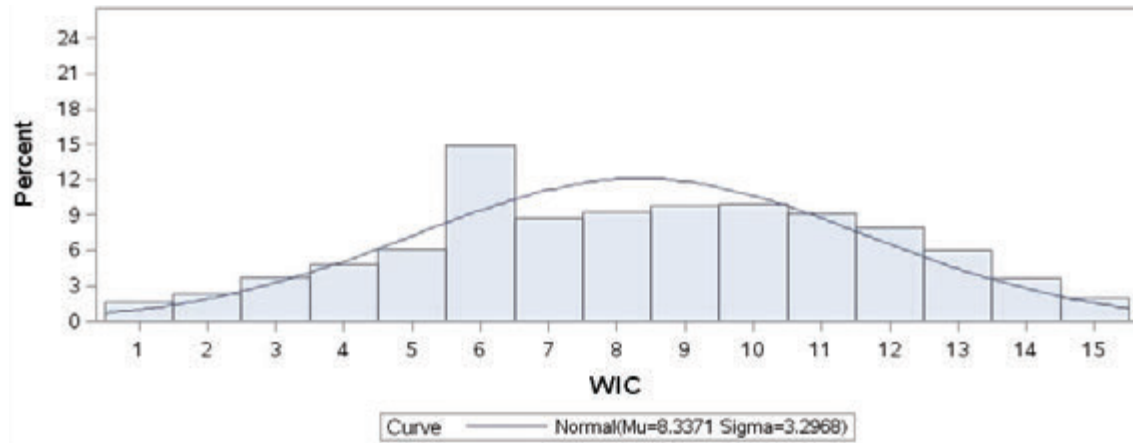


Figure A-6.29.8: Expression of Ideas scale score distribution

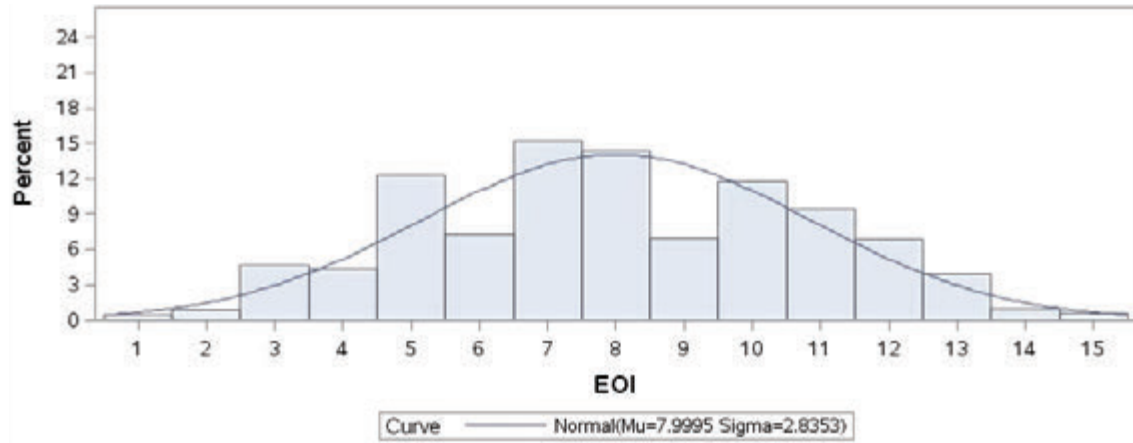


Figure A-6.29.9: Standard English Conventions scale score distribution

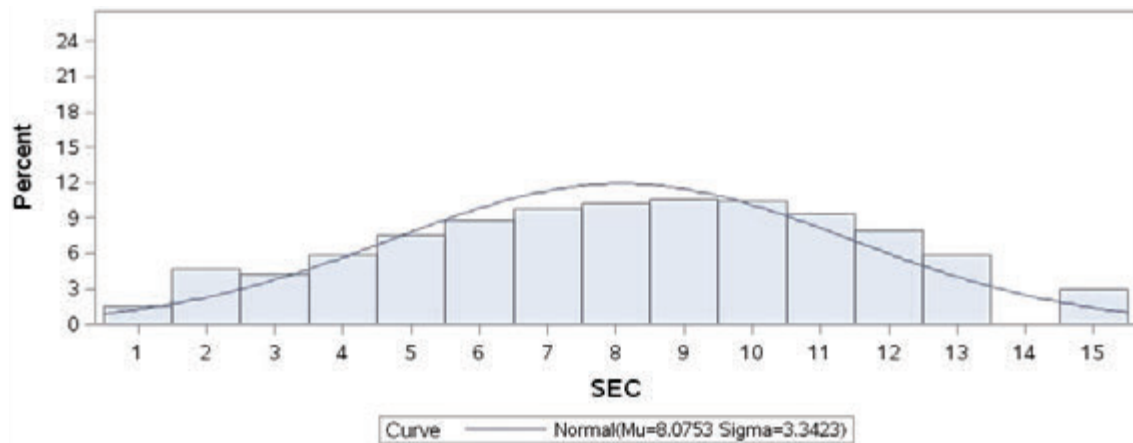


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Figure A-6.29.10: Heart of Algebra scale score distribution

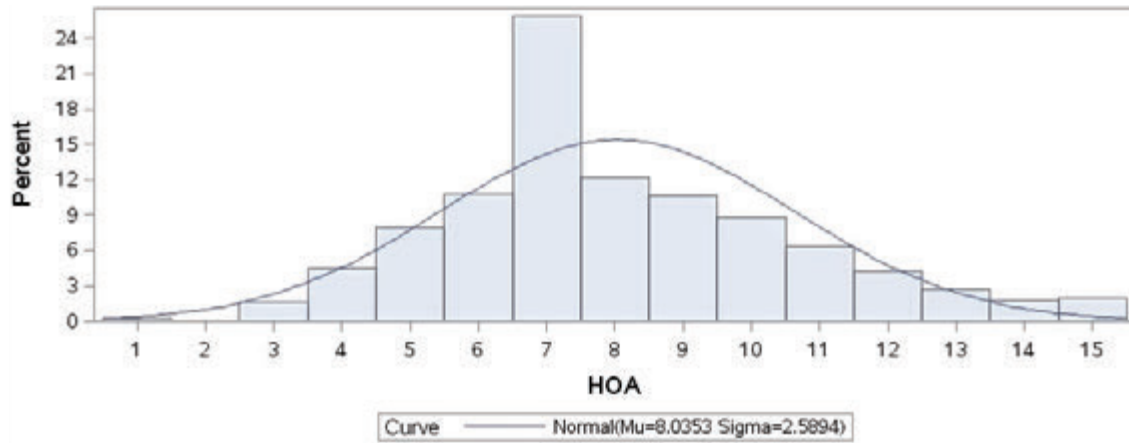


Figure A-6.29.11: Problem Solving and Data Analysis scale score distribution

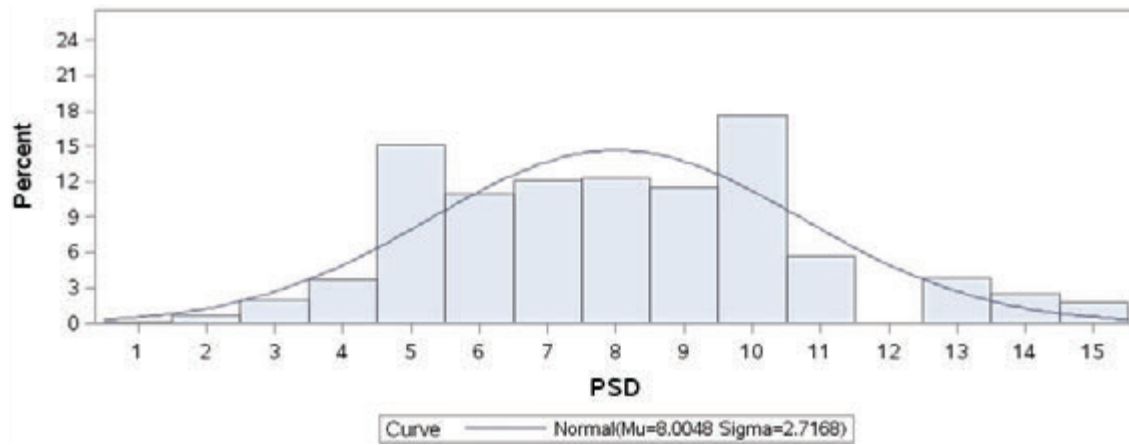


Figure A-6.29.12: Evidence-Based Reading and Writing scale score distribution

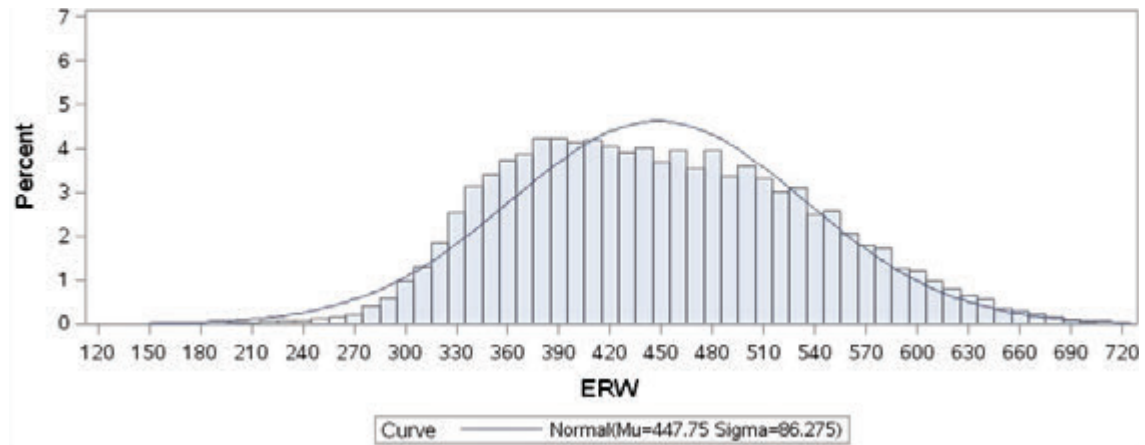


Figure A-6.29 continued on next page

Figure A-6.29 continued from previous page

Figure A-6.29.13: Math section scale score distribution

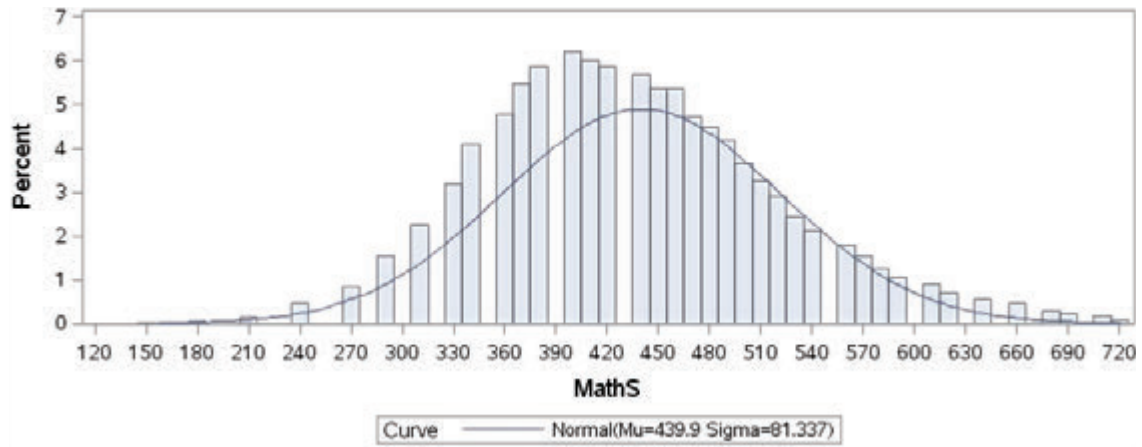
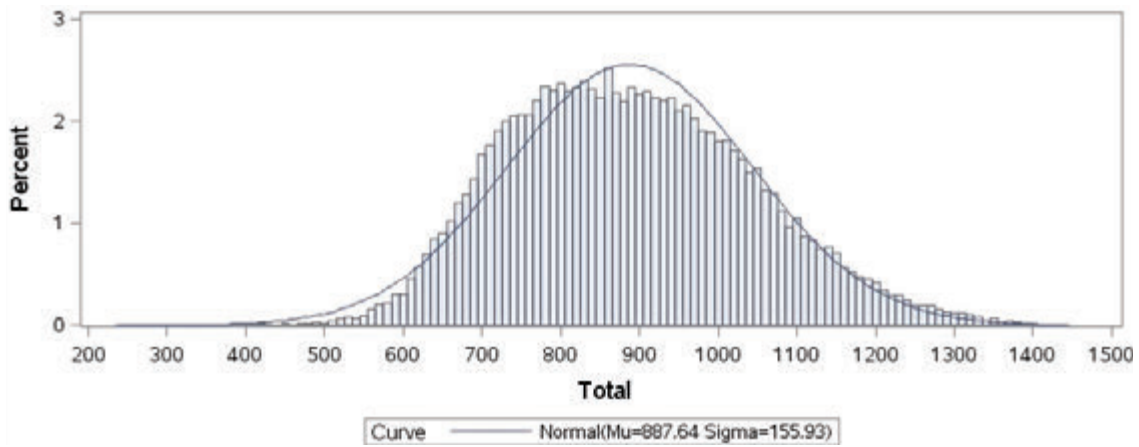


Figure A-6.29.14: Total scale score distribution



## APPENDIX 7

# Validity

Table A-7.1: Old SAT to New SAT

Old SAT	New SAT
Math (200–800)	Math section score (200–800)
Critical Reading (200–800)	Reading Test score (10–40)
Writing (200–800)	Writing and Language Test score (10–40)
Critical Reading + Writing (400–1600)	Evidence-Based Reading and Writing (ERW) section score (200–800)
Critical Reading + Math (400–1600)	Total Score (ERW + Math section; 400–1600)
<b>Critical Reading + Math + Writing (600–2400)</b>	<b>Total Score (ERW + Math section; 400–1600)</b>

Table A-7.2: Correlations Between Old SAT and New SAT Score Pairs for Concordances (Lower Diagonal from Unweighted Sample, Upper Diagonal from Weighted Sample)

	Old M	Old CR	Old W	Old CR + W	Old M + CR	Old M + CR + W	New MTS	New R	New WL	New ERW	New Total
<b>Old M</b>	1.000	0.759	0.764	0.794	0.940	0.910	<b>0.880</b>	0.700	0.735	0.750	0.864
<b>Old CR</b>	0.737	1.000	0.839	0.959	0.936	0.934	0.725	<b>0.825</b>	0.808	0.854	0.836
<b>Old W</b>	0.737	0.820	1.000	0.959	0.854	0.935	0.719	0.758	<b>0.805</b>	0.817	0.814
<b>Old CR + W</b>	0.773	0.955	0.953	1.000	0.933	0.974	0.753	0.825	0.841	<b>0.872</b>	0.860
<b>Old M + CR</b>	0.934	0.930	0.834	0.925	1.000	0.983	0.857	0.812	0.822	0.855	<b>0.907</b>
<b>Old M + CR + W</b>	0.901	0.927	0.926	0.971	0.981	1.000	0.838	0.821	0.844	0.871	<b>0.905</b>
<b>New MTS</b>	0.868	0.702	0.691	0.730	0.844	0.823	1.000	0.735	0.758	0.781	0.945
<b>New R</b>	0.679	0.810	0.736	0.811	0.798	0.807	0.717	1.000	0.827	0.956	0.895
<b>New WL</b>	0.715	0.789	0.785	0.825	0.806	0.830	0.740	0.811	1.000	0.956	0.907
<b>New ERW</b>	0.732	0.840	0.799	0.859	0.843	0.860	0.765	0.952	0.951	1.000	0.943
<b>New Total</b>	0.852	0.821	0.793	0.846	0.897	0.896	0.940	0.888	0.900	0.939	1.000

MTS = Math; R = Reading; W = Writing; WL = Writing and Language; CR = Critical Reading; ERW = Evidence-Based Reading and Writing.

**Table A-7.3: Demographic Characteristics of the Unweighted SAT Concordance Data Overall Descriptive Statistics for the Unweighted Total Group (N = 8,677)**

Subject	New SAT Mean (SD)	Corr.	Old SAT Mean (SD)	Old SAT Mean (SD) (Cohort)
Reading	26.97 (5.16)	0.810	497.22 (101.21)	496.50 (114.50)
Math	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
Writing	27.11 (5.12)	0.785	477.89 (98.97)	488.00 (114.00)

**Table A-7.4: Demographic Characteristics of the Unweighted SAT Concordance Data by Grade Level (New SAT Response)**

READING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>11th Grade</b>	3230	37.225	32.25	0.347	0.835	0.259	0.17
<b>12th Grade</b>	5447	62.775	67.25	-0.206	0.781	-0.154	-0.08
MATH SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>11th Grade</b>	3230	37.225	32.25	0.345	0.88	0.281	0.15
<b>12th Grade</b>	5447	62.775	67.25	-0.205	0.849	-0.167	-0.07
WRITING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>11th Grade</b>	3230	37.225	32.25	0.336	0.811	0.262	0.18
<b>12th Grade</b>	5447	62.775	67.25	-0.199	0.753	-0.155	-0.08

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.5: Demographic Characteristics of the Unweighted SAT Concordance Data by Gender (New SAT Response)

READING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>F</b>	5192	59.836	53	-0.027	0.814	-0.053	0.02
<b>M</b>	3485	40.164	47	0.04	0.805	0.079	-0.02
MATH SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>F</b>	5192	59.836	53	-0.148	0.858	-0.153	-0.12
<b>M</b>	3485	40.164	47	0.221	0.87	0.228	0.15
WRITING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>F</b>	5192	59.836	53	-0.003	0.793	0.01	0.05
<b>M</b>	3485	40.164	47	0.004	0.773	-0.015	-0.06

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.6: Demographic Characteristics of the Unweighted SAT Concordance Data by First Language (New SAT Response)

READING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>No Response</b>	46	0.53	3.25	-0.288	0.824	-0.258	-0.43
<b>English Only</b>	5815	67.016	69.25	0.108	0.811	0.108	0.10
<b>English and Another Language</b>	1723	19.857	15.50	-0.218	0.789	-0.199	-0.14
<b>Another Language</b>	1093	12.597	12.25	-0.217	0.801	-0.251	-0.30
MATH SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>No Response</b>	46	0.53	3.25	-0.29	0.848	-0.187	-0.03
<b>English Only</b>	5815	67.016	69.25	0.074	0.865	0.065	-0.01
<b>English and Another Language</b>	1723	19.857	15.50	-0.187	0.872	-0.183	-0.04
<b>Another Language</b>	1093	12.597	12.25	-0.087	0.867	-0.051	0.11
WRITING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>No Response</b>	46	0.53	3.25	-0.392	0.82	-0.216	-0.30
<b>English Only</b>	5815	67.016	69.25	0.114	0.79	0.074	0.06
<b>English and Another Language</b>	1723	19.857	15.50	-0.228	0.782	-0.149	-0.07
<b>Another Language</b>	1093	12.597	12.25	-0.231	0.742	-0.148	-0.16

\*Cohort results are averages of the 2011–2014 cohort.

**Table A-7.7: Demographic Characteristics of the Unweighted SAT Concordance Data by Best Language (New SAT Response)**

READING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>No Response</b>	60	0.691	3	-0.588	0.832	-0.501	-0.64
<b>English Only</b>	6506	74.98	75.25	0.103	0.812	0.107	0.11
<b>English and Another Language</b>	1924	22.174	18.50	-0.266	0.777	-0.269	-0.23
<b>Another Language</b>	187	2.155	4	-0.674	0.725	-0.792	-0.62
MATH SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>No Response</b>	60	0.691	3	-0.596	0.862	-0.52	-0.22
<b>English Only</b>	6506	74.98	75.25	0.081	0.868	0.075	0.02
<b>English and Another Language</b>	1924	22.174	18.50	-0.26	0.856	-0.239	-0.11
<b>Another Language</b>	187	2.155	4	0.053	0.857	0.022	0.36
WRITING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>No Response</b>	60	0.691	3	-0.589	0.825	-0.582	-0.51
<b>English Only</b>	6506	74.98	75.25	0.104	0.79	0.084	0.07
<b>English and Another Language</b>	1924	22.174	18.50	-0.279	0.745	-0.21	-0.14
<b>Another Language</b>	187	2.155	4	-0.566	0.702	-0.593	-0.38

\*Cohort results are averages of the 2011–2014 cohort.



Table A-7.8: Demographic Characteristics of the Unweighted SAT Concordance Data by Ethnicity

READING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>I do not wish to respond</b>	432	4.979	3.50	-0.374	0.813	-0.374	-0.46
<b>American Indian or Alaska Native</b>	131	1.51	1.00	0.051	0.685	0.064	-0.12
<b>Asian, Asian American, or Pacific Islander</b>	816	9.404	11.75	0.281	0.797	0.297	0.20
<b>Black or African American</b>	1183	13.634	13.00	-0.557	0.754	-0.55	-0.59
<b>Mexican or Mexican American</b>	1160	13.369	6.75	-0.286	0.769	-0.297	-0.41
<b>Puerto Rican</b>	103	1.187	2.00	-0.313	0.804	-0.332	-0.37
<b>Other Hispanic, Latino, or Latin American</b>	942	10.856	8.50	-0.345	0.751	-0.324	-0.41
<b>White</b>	3845	44.313	50.75	0.334	0.796	0.327	0.27
<b>Other</b>	65	0.749	4.00	-0.181	0.811	-0.16	-0.04
MATH SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>I do not wish to respond</b>	432	4.979	3.50	-0.38	0.85	-0.387	-0.11
<b>American Indian or Alaska Native</b>	131	1.51	1.00	-0.034	0.782	-0.028	-0.23
<b>Asian, Asian American, or Pacific Islander</b>	816	9.404	11.75	0.642	0.865	0.684	0.70
<b>Black or African American</b>	1183	13.634	13.00	-0.644	0.827	-0.673	-0.72
<b>Mexican or Mexican American</b>	1160	13.369	6.75	-0.292	0.838	-0.293	-0.42
<b>Puerto Rican</b>	103	1.187	2.00	-0.371	0.846	-0.426	-0.53
<b>Other Hispanic, Latino, or Latin American</b>	942	10.856	8.50	-0.416	0.813	-0.363	-0.45
<b>White</b>	3845	44.313	50.75	0.307	0.842	0.297	0.18
<b>Other</b>	65	0.749	4.00	-0.07	0.888	-0.105	0.04

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WRITING SCORES							
Weighted Group/Subgroup	N	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>I do not wish to respond</b>	432	4.979	3.50	-0.379	0.781	-0.358	-0.36
<b>American Indian or Alaska Native</b>	131	1.51	1.00	-0.054	0.652	-0.081	-0.23
<b>Asian, Asian American, or Pacific Islander</b>	816	9.404	11.75	0.37	0.76	0.427	0.35
<b>Black or African American</b>	1183	13.634	13.00	-0.586	0.749	-0.575	-0.62
<b>Mexican or Mexican American</b>	1160	13.369	6.75	-0.298	0.755	-0.277	-0.39
<b>Puerto Rican</b>	103	1.187	2.00	-0.324	0.816	-0.282	-0.40
<b>Other Hispanic, Latino, or Latin American</b>	942	10.856	8.50	-0.384	0.738	-0.293	-0.40
<b>White</b>	3845	44.313	50.75	0.34	0.753	0.294	0.23
<b>Other</b>	65	0.749	4.00	-0.043	0.817	-0.091	0.03

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.9: Demographic Characteristics of the Unweighted SAT Concordance Data by Region (New SAT Response)

Weighted Group/Subgroup	N	%	% (Cohort*)	READING SCORES			
				New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	26.966 (5.158)	0.810	497.22 (101.21)	496.50 (114.50)
<b>Missing</b>	897	10.338	7.75	-0.125	0.778	-0.128	-0.13
<b>MRO</b>	490	5.647	6.25	0.002	0.811	-0.01	0.31
<b>MSRO</b>	1475	16.999	24.50	0.219	0.829	0.202	-0.05
<b>NERO</b>	193	2.224	8.00	-0.182	0.813	-0.175	0.09
<b>SRO</b>	3089	35.6	21.00	0.028	0.805	0.035	0.01
<b>SWRO</b>	1089	12.55	10.75	-0.152	0.812	-0.155	-0.16
<b>WRO</b>	1444	16.642	21.50	-0.069	0.802	-0.059	0.06
Weighted Group/Subgroup	N	%	% (Cohort*)	MATH SCORES			
				New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	536.71 (97.96)	0.868	505.27 (104.64)	513.75 (118.00)
<b>Missing</b>	897	10.338	7.75	-0.184	0.84	-0.187	0.59
<b>MRO</b>	490	5.647	6.25	0.073	0.896	0.012	0.22
<b>MSRO</b>	1475	16.999	24.50	0.273	0.868	0.246	-0.09
<b>NERO</b>	193	2.224	8.00	-0.18	0.858	-0.192	0.02
<b>SRO</b>	3089	35.6	21.00	-0.03	0.865	-0.02	-0.13
<b>SWRO</b>	1089	12.55	10.75	-0.067	0.888	-0.069	-0.11
<b>WRO</b>	1444	16.642	21.50	-0.049	0.85	-0.019	0.01

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Weighted Group/Subgroup	N	%	% (Cohort*)	WRITING SCORES			
				New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	8677	100	100.00	27.114 (5.116)	0.785	477.89 (98.97)	488.00 (114.00)
<b>Missing</b>	897	10.338	7.75	-0.13	0.722	-0.132	0.11
<b>MRO</b>	490	5.647	6.25	0.055	0.794	-0.044	0.24
<b>MSRO</b>	1475	16.999	24.50	0.221	0.807	0.211	-0.05
<b>NERO</b>	193	2.224	8.00	-0.286	0.826	-0.14	0.12
<b>SRO</b>	3089	35.6	21.00	0.03	0.776	0.029	-0.06
<b>SWRO</b>	1089	12.55	10.75	-0.179	0.793	-0.188	-0.20
<b>WRO</b>	1444	16.642	21.50	-0.054	0.778	-0.019	0.08

\*Cohort results are averages of the 2011–2014 cohort.

**Table A-7.10: Demographic Characteristics of the Weighted SAT Concordance Data  
Overall Descriptive Statistics for the Weighted Total Group**

Subject	New SAT Mean (SD)	Corr.	Old SAT Mean (SD)	Old SAT Mean (SD) (Cohort)
Reading	27.03 (5.37)	0.825	497.38 (108.83)	496.50 (114.50)
Math	543.10 (104.36)	0.880	512.43 (112.55)	513.75 (118.00)
Writing	27.21 (5.37)	0.805	483.55 (107.67)	488.00 (114.00)

Table A-7.11: Demographic Characteristics of the Weighted SAT Concordance Data by Grade Level (New SAT Response)

READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
<b>11th Grade</b>	35.393	32.25	0.39	0.846	0.306	0.17
<b>12th Grade</b>	64.607	67.25	-0.214	0.797	-0.168	-0.08
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
<b>11th Grade</b>	35.393	32.25	0.389	0.894	0.33	0.15
<b>12th Grade</b>	64.607	67.25	-0.213	0.859	-0.181	-0.07
WRITING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
<b>11th Grade</b>	35.393	32.25	0.38	0.83	0.316	0.18
<b>12th Grade</b>	64.607	67.25	-0.208	0.772	-0.173	-0.08

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.12: Demographic Characteristics of the Weighted SAT Concordance Data by Gender (New SAT Response)

READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
<b>F</b>	56.124	53	-0.032	0.827	-0.054	0.02
<b>M</b>	43.876	47	0.04	0.822	0.069	-0.02
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
<b>F</b>	56.124	53	-0.166	0.871	-0.165	-0.12
<b>M</b>	43.876	47	0.212	0.88	0.212	0.15
WRITING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
<b>F</b>	56.124	53	-0.009	0.81	0.005	0.05
<b>M</b>	43.876	47	0.011	0.799	-0.006	-0.06

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.13: Demographic Characteristics of the Weighted SAT Concordance Data by First Language (New SAT Response)

READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
<b>No Response</b>	1.883	3.25	-0.435	0.79	-0.393	-0.43
<b>English Only</b>	67.585	69.25	0.11	0.824	0.106	0.10
<b>English and Another Language</b>	17.765	15.50	-0.216	0.812	-0.191	-0.14
<b>Another Language</b>	12.767	12.25	-0.217	0.822	-0.239	-0.30
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
<b>No Response</b>	1.883	3.25	-0.313	0.828	-0.333	-0.03
<b>English Only</b>	67.585	69.25	0.06	0.878	0.054	-0.01
<b>English and Another Language</b>	17.765	15.50	-0.175	0.891	-0.166	-0.04
<b>Another Language</b>	12.767	12.25	-0.03	0.874	-0.003	0.11
WRITING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
<b>No Response</b>	1.883	3.25	-0.623	0.802	-0.377	-0.30
<b>English Only</b>	67.585	69.25	0.114	0.807	0.072	0.06
<b>English and Another Language</b>	17.765	15.50	-0.212	0.812	-0.134	-0.07
<b>Another Language</b>	12.767	12.25	-0.216	0.773	-0.141	-0.16

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.14: Demographic Characteristics of the Weighted SAT Concordance Data by Best Language (New SAT Response)

READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
No Response	1.787	3	-0.459	0.826	-0.427	-0.64
English Only	74.777	75.25	0.111	0.826	0.111	0.11
English and Another Language	20.177	18.50	-0.269	0.801	-0.256	-0.23
Another Language	3.259	4	-0.631	0.718	-0.716	-0.62
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
No Response	1.787	3	-0.379	0.833	-0.378	-0.22
English Only	74.777	75.25	0.074	0.882	0.069	0.02
English and Another Language	20.177	18.50	-0.252	0.875	-0.227	-0.11
Another Language	3.259	4	0.079	0.842	0.037	0.36
WRITING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
No Response	1.787	3	-0.628	0.795	-0.472	-0.51
English Only	74.777	75.25	0.111	0.809	0.09	0.07
English and Another Language	20.177	18.50	-0.27	0.775	-0.207	-0.14
Another Language	3.259	4	-0.531	0.722	-0.531	-0.38

\*Cohort results are averages of the 2011–2014 cohort.



Table A-7.15: Demographic Characteristics of the Weighted SAT Concordance Data by Ethnicity

READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100.00	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
<b>I do not wish to respond</b>	4.241	3.50	-0.456	0.823	-0.456	-0.46
<b>American Indian or Alaska Native</b>	1.124	1.00	0.013	0.69	0.026	-0.12
<b>Asian, Asian American, or Pacific Islander</b>	11.373	11.75	0.282	0.816	0.31	0.20
<b>Black or African American</b>	13.254	13.00	-0.597	0.765	-0.587	-0.59
<b>Mexican or Mexican American</b>	9.665	6.75	-0.332	0.771	-0.343	-0.41
<b>Puerto Rican</b>	1.529	2.00	-0.439	0.805	-0.487	-0.37
<b>Other Hispanic, Latino, or Latin American</b>	9.419	8.50	-0.403	0.763	-0.386	-0.41
<b>White</b>	47.084	50.75	0.315	0.81	0.304	0.27
<b>Other</b>	2.311	4.00	-0.232	0.817	-0.195	-0.04
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100.00	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
<b>I do not wish to respond</b>	4.241	3.50	-0.479	0.857	-0.452	-0.11
<b>American Indian or Alaska Native</b>	1.124	1.00	-0.09	0.793	-0.057	-0.23
<b>Asian, Asian American, or Pacific Islander</b>	11.373	11.75	0.64	0.866	0.676	0.70
<b>Black or African American</b>	13.254	13.00	-0.703	0.826	-0.732	-0.72
<b>Mexican or Mexican American</b>	9.665	6.75	-0.344	0.848	-0.344	-0.42
<b>Puerto Rican</b>	1.529	2.00	-0.515	0.854	-0.578	-0.53
<b>Other Hispanic, Latino, or Latin American</b>	9.419	8.50	-0.483	0.825	-0.431	-0.45
<b>White</b>	47.084	50.75	0.275	0.857	0.265	0.18
<b>Other</b>	2.311	4.00	-0.053	0.891	-0.108	0.04

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Weighted Group/Subgroup	WRITING SCORES					
	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
<b>Total</b>	100	100.00	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
<b>I do not wish to respond</b>	4.241	3.50	-0.483	0.813	-0.41	-0.36
<b>American Indian or Alaska Native</b>	1.124	1.00	-0.086	0.667	-0.1	-0.23
<b>Asian, Asian American, or Pacific Islander</b>	11.373	11.75	0.364	0.778	0.439	0.35
<b>Black or African American</b>	13.254	13.00	-0.639	0.757	-0.611	-0.62
<b>Mexican or Mexican American</b>	9.665	6.75	-0.334	0.77	-0.316	-0.39
<b>Puerto Rican</b>	1.529	2.00	-0.474	0.832	-0.474	-0.40
<b>Other Hispanic, Latino, or Latin American</b>	9.419	8.50	-0.435	0.757	-0.354	-0.40
<b>White</b>	47.084	50.75	0.315	0.775	0.263	0.23
<b>Other</b>	2.311	4.00	-0.133	0.837	-0.133	0.03

\*Cohort results are averages of the 2011–2014 cohort.

Table A-7.16: Demographic Characteristics of the Weighted SAT Concordance Data by Region (New SAT Response)

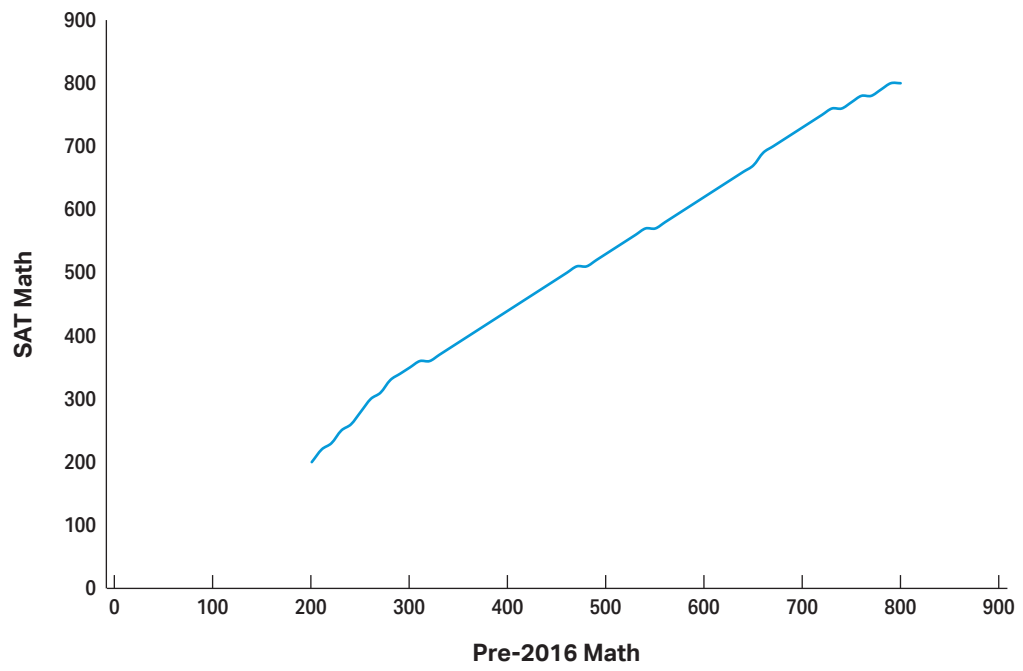
READING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100.00	27.034 (5.368)	0.825	497.38 (108.83)	496.50 (114.50)
Missing	8.771	7.75	-0.123	0.789	-0.121	-0.13
MRO	5.979	6.25	-0.026	0.814	-0.021	0.31
MSRO	21.051	24.50	0.209	0.845	0.195	-0.05
NERO	5.168	8.00	-0.27	0.821	-0.263	0.09
SRO	28.354	21.00	0.007	0.819	0.004	0.01
SWRO	11.686	10.75	-0.121	0.828	-0.106	-0.16
WRO	18.99	21.50	-0.03	0.816	-0.023	0.06
MATH SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100.00	54.31 (10.436)	0.880	512.43 (112.55)	513.75 (118.00)
Missing	8.771	7.75	-0.202	0.85	-0.197	0.59
MRO	5.979	6.25	0.029	0.908	-0.029	0.22
MSRO	21.051	24.50	0.243	0.881	0.22	-0.09
NERO	5.168	8.00	-0.292	0.862	-0.308	0.02
SRO	28.354	21.00	-0.052	0.88	-0.035	-0.13
SWRO	11.686	10.75	-0.039	0.905	-0.04	-0.11
WRO	18.99	21.50	-0.004	0.853	0.017	0.01
WRITING SCORES						
Weighted Group/Subgroup	%	% (Cohort*)	New SAT Mean (SD) or Std. Diff.	Corr.	Old SAT Mean (SD) or Std. Diff.	Old SAT Mean (SD) or Std. Diff. (Cohort*)
Total	100	100.00	27.209 (5.369)	0.805	483.55 (107.67)	488.00 (114.00)
Missing	8.771	7.75	-0.122	0.738	-0.134	0.11
MRO	5.979	6.25	0.032	0.812	-0.059	0.24
MSRO	21.051	24.50	0.213	0.822	0.191	-0.05
NERO	5.168	8.00	-0.374	0.835	-0.225	0.12
SRO	28.354	21.00	0.013	0.791	0.014	-0.06
SWRO	11.686	10.75	-0.145	0.816	-0.158	-0.20
WRO	18.99	21.50	-0.019	0.796	0.007	0.08

\*Cohort results are averages of the 2011–2014 cohort.

**Table A-7.17: Old SAT to New SAT Concordance Table for Math Scores**

Old SAT (200–800)	New SAT (200–800)	Old SAT (200–800)	New SAT (200–800)	Old SAT (200–800)	New SAT (200–800)
200	200	410	450	620	640
210	220	420	460	630	650
220	230	430	470	640	660
230	250	440	480	650	670
240	260	450	490	660	690
250	280	460	500	670	700
260	300	470	510	680	710
270	310	480	510	690	720
280	330	490	520	700	730
290	340	500	530	710	740
300	350	510	540	720	750
310	360	520	550	730	760
320	360	530	560	740	760
330	370	540	570	750	770
340	380	550	570	760	780
350	390	560	580	770	780
360	400	570	590	780	790
370	410	580	600	790	800
380	420	590	610	800	800
390	430	600	620		
400	440	610	630		

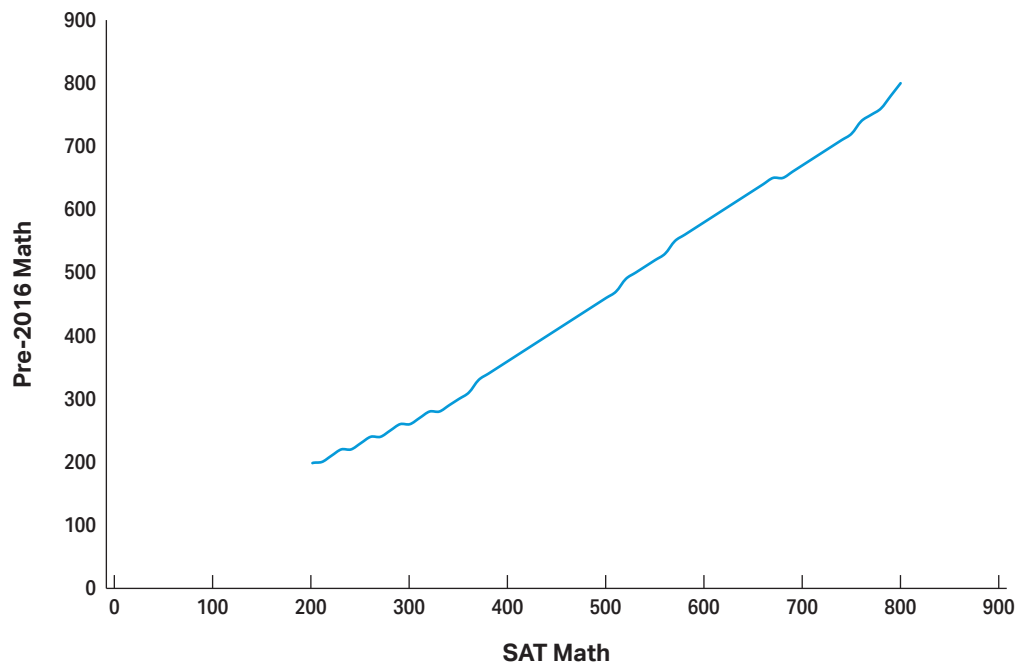
Figure A-7.1: Old SAT to new SAT concordance plot for Math scores



**Table A-7.18: New SAT to Old SAT Concordance Table for Math Scores**

<b>New SAT (200–800)</b>	<b>Old SAT (200–800)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (200–800)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (200–800)</b>
200	200	410	370	620	600
210	200	420	380	630	610
220	210	430	390	640	620
230	220	440	400	650	630
240	220	450	410	660	640
250	230	460	420	670	650
260	240	470	430	680	650
270	240	480	440	690	660
280	250	490	450	700	670
290	260	500	460	710	680
300	260	510	470	720	690
310	270	520	490	730	700
320	280	530	500	740	710
330	280	540	510	750	720
340	290	550	520	760	740
350	300	560	530	770	750
360	310	570	550	780	760
370	330	580	560	790	780
380	340	590	570	800	800
390	350	600	580		
400	360	610	590		

Figure A-7.2: New SAT to old SAT concordance plot for Math scores



**Table A-7.19: Old SAT to New SAT Concordance Table for Reading Scores**

Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)
200	10	410	22	620	33
210	11	420	23	630	34
220	12	430	24	640	34
230	13	440	24	650	35
240	13	450	25	660	35
250	14	460	25	670	36
260	15	470	26	680	36
270	16	480	26	690	37
280	17	490	27	700	37
290	17	500	27	710	37
300	18	510	28	720	38
310	18	520	28	730	38
320	18	530	29	740	38
330	19	540	29	750	39
340	19	550	30	760	39
350	19	560	30	770	39
360	20	570	31	780	40
370	20	580	31	790	40
380	21	590	32	800	40
390	21	600	32		
400	22	610	33		



Figure A-7.3: Old SAT to new SAT concordance plot for Reading scores

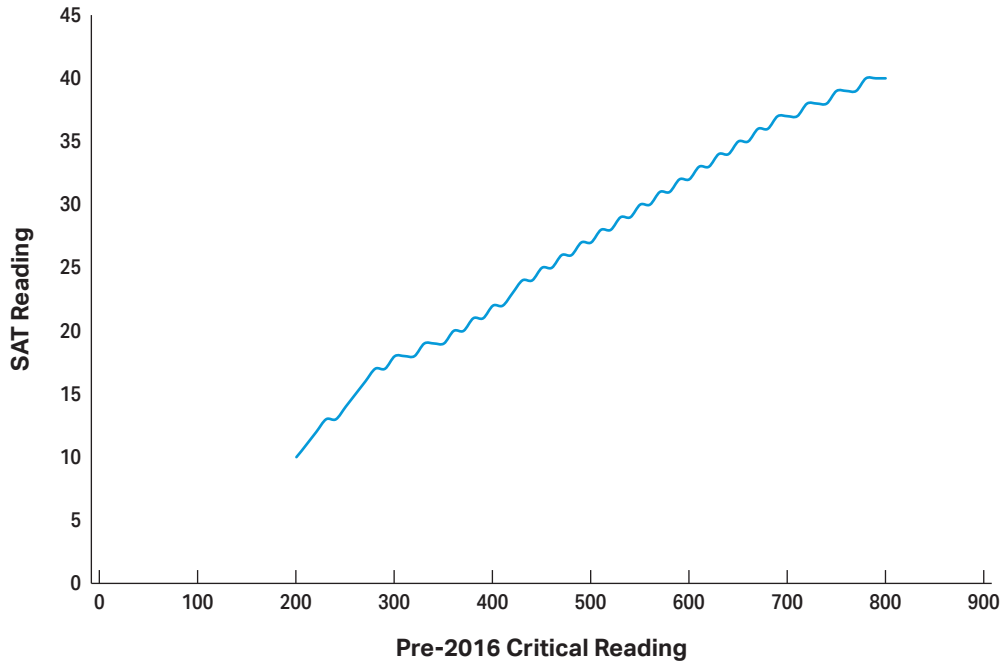
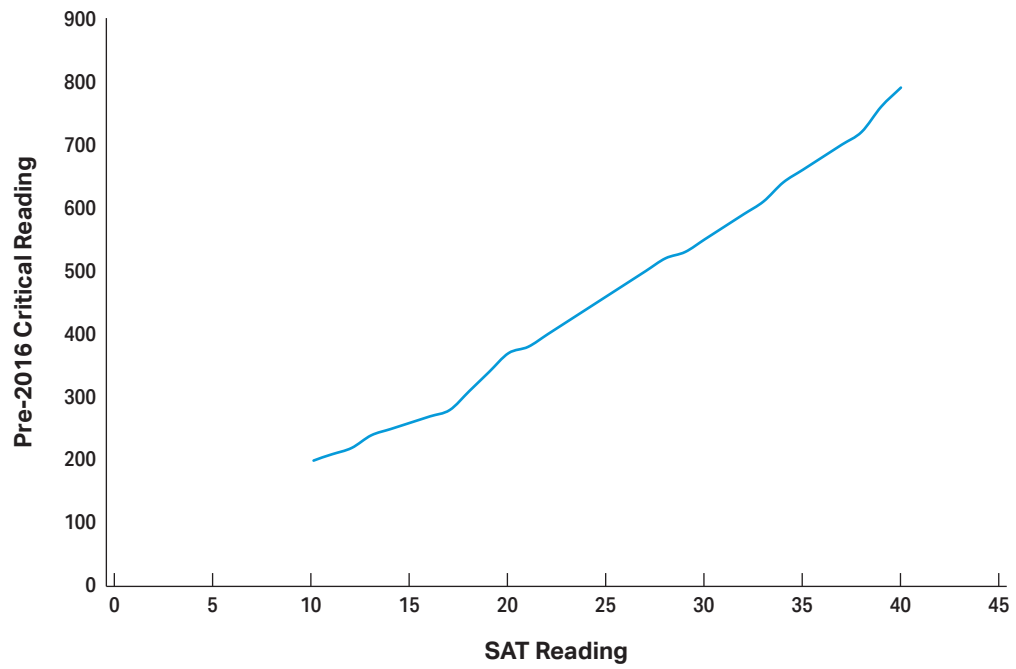


Table A-7.20: New SAT to Old SAT Concordance Table for Reading Scores

New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)
10	200	21	380	32	590
11	210	22	400	33	610
12	220	23	420	34	640
13	240	24	440	35	660
14	250	25	460	36	680
15	260	26	480	37	700
16	270	27	500	38	720
17	280	28	520	39	760
18	310	29	530	40	790
19	340	30	550		
20	370	31	570		

Figure A-7.4: New SAT to old SAT concordance plot for Reading scores



**Table A-7.21: Old SAT to New SAT Concordance Table for Writing Scores**

<b>Old SAT (200–800)</b>	<b>New SAT (10–40)</b>	<b>Old SAT (200–800)</b>	<b>New SAT (10–40)</b>	<b>Old SAT (200–800)</b>	<b>New SAT (10–40)</b>
200	10	410	24	620	34
210	11	420	24	630	34
220	11	430	25	640	35
230	12	440	25	650	35
240	13	450	26	660	35
250	14	460	27	670	36
260	14	470	27	680	36
270	15	480	28	690	36
280	16	490	28	700	37
290	17	500	28	710	37
300	17	510	29	720	37
310	18	520	29	730	38
320	18	530	30	740	38
330	19	540	30	750	38
340	19	550	31	760	39
350	20	560	31	770	39
360	21	570	32	780	40
370	21	580	32	790	40
380	22	590	33	800	40
390	22	600	33		
400	23	610	33		

Figure A-7.5: Old SAT to new SAT concordance plot for Writing scores

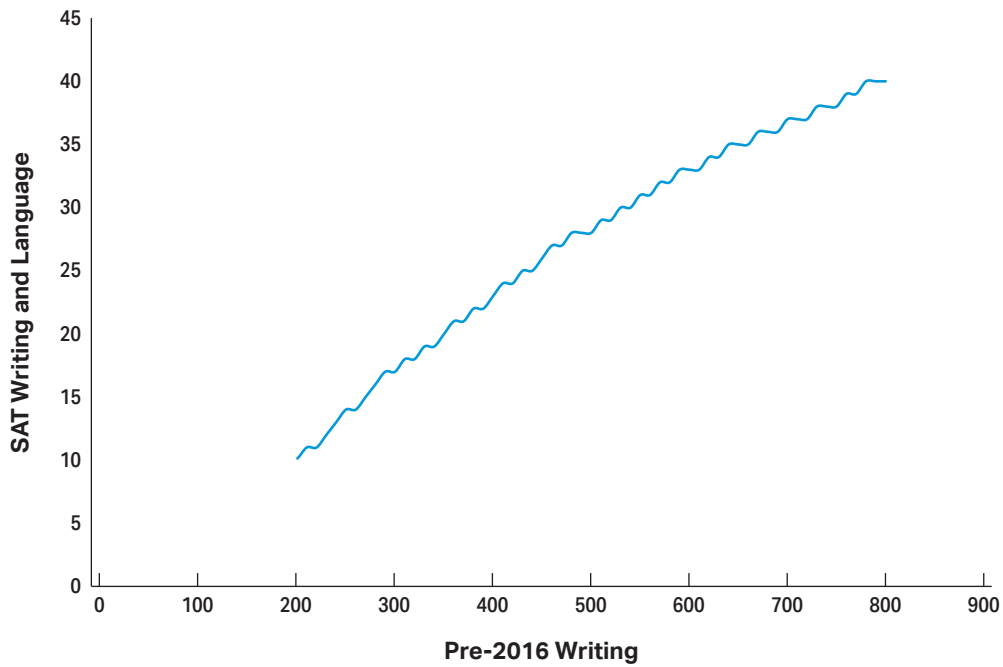
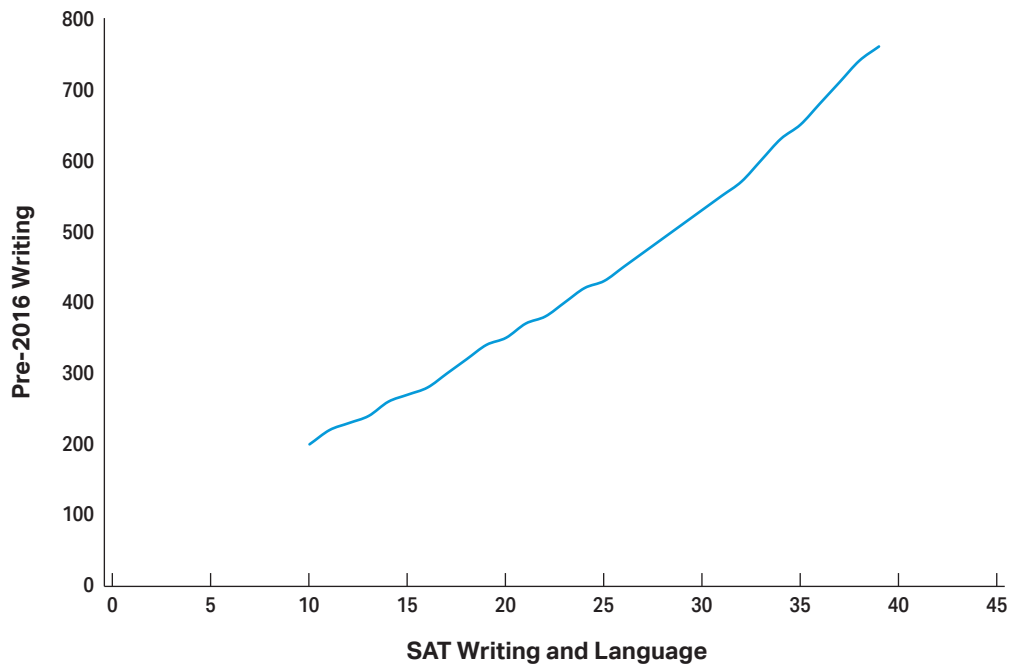


Table A-7.22: New SAT to Old SAT Concordance Table for Writing Scores

New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)	New SAT (10–40)	Old SAT (200–800)
10	200	21	370	32	570
11	220	22	380	33	600
12	230	23	400	34	630
13	240	24	420	35	650
14	260	25	430	36	680
15	270	26	450	37	710
16	280	27	470	38	740
17	300	28	490	39	760
18	320	29	510	40	790
19	340	30	530		
20	350	31	550		

Figure A-7.6: New SAT to old SAT concordance plot for Writing scores



**Table A-7.23: Old SAT to New SAT Concordance Table for Combined Reading and Writing Scores**

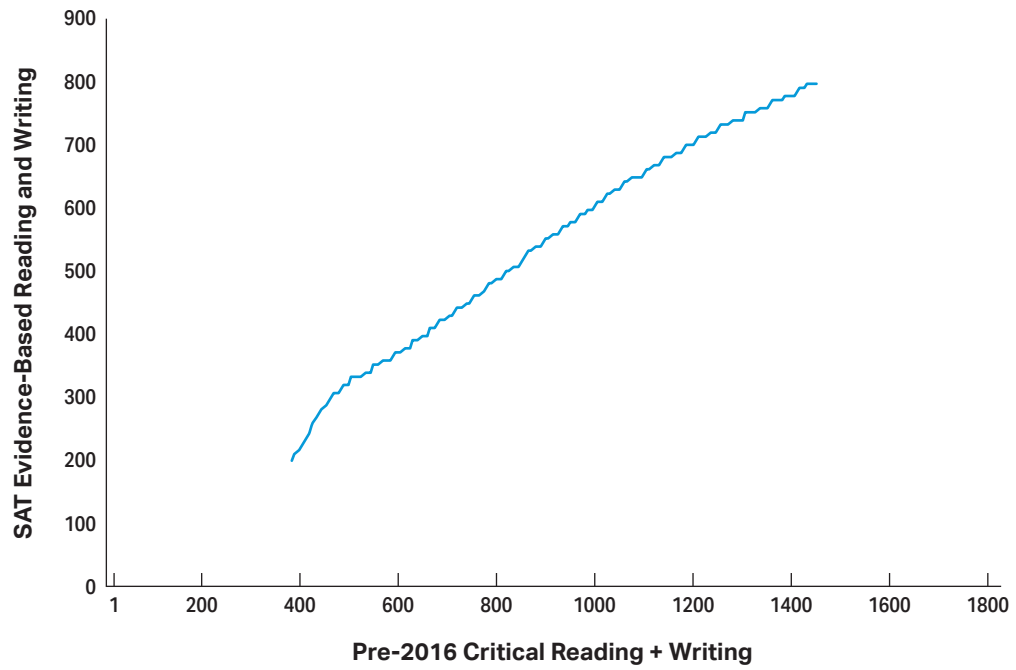
<b>Old SAT (400–1600)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (200–800)</b>
400	200	640	370	880	490
410	210	650	370	890	500
420	220	660	380	900	500
430	230	670	380	910	510
440	240	680	390	920	510
450	260	690	390	930	520
460	270	700	400	940	530
470	280	710	400	950	530
480	290	720	410	960	540
490	300	730	410	970	540
500	310	740	420	980	550
510	310	750	420	990	550
520	320	760	430	1000	560
530	320	770	430	1010	560
540	330	780	440	1020	570
550	330	790	440	1030	570
560	330	800	450	1040	580
570	340	810	450	1050	580
580	340	820	460	1060	590
590	350	830	460	1070	590
600	350	840	470	1080	600
610	360	850	480	1090	600
620	360	860	480	1100	610
630	360	870	490	1110	610

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Old SAT (400–1600)	New SAT (200–800)	Old SAT (400–1600)	New SAT (200–800)	Old SAT (400–1600)	New SAT (200–800)
1120	620	1290	690	1460	750
1130	620	1300	700	1470	760
1140	630	1310	700	1480	760
1150	630	1320	700	1490	760
1160	640	1330	710	1500	770
1170	640	1340	710	1510	770
1180	650	1350	710	1520	770
1190	650	1360	720	1530	780
1200	650	1370	720	1540	780
1210	660	1380	730	1550	780
1220	660	1390	730	1560	790
1230	670	1400	730	1570	790
1240	670	1410	740	1580	800
1250	680	1420	740	1590	800
1260	680	1430	740	1600	800
1270	680	1440	750		
1280	690	1450	750		

Figure A-7.7: Old SAT to new SAT concordance plot for combined Reading and Writing scores

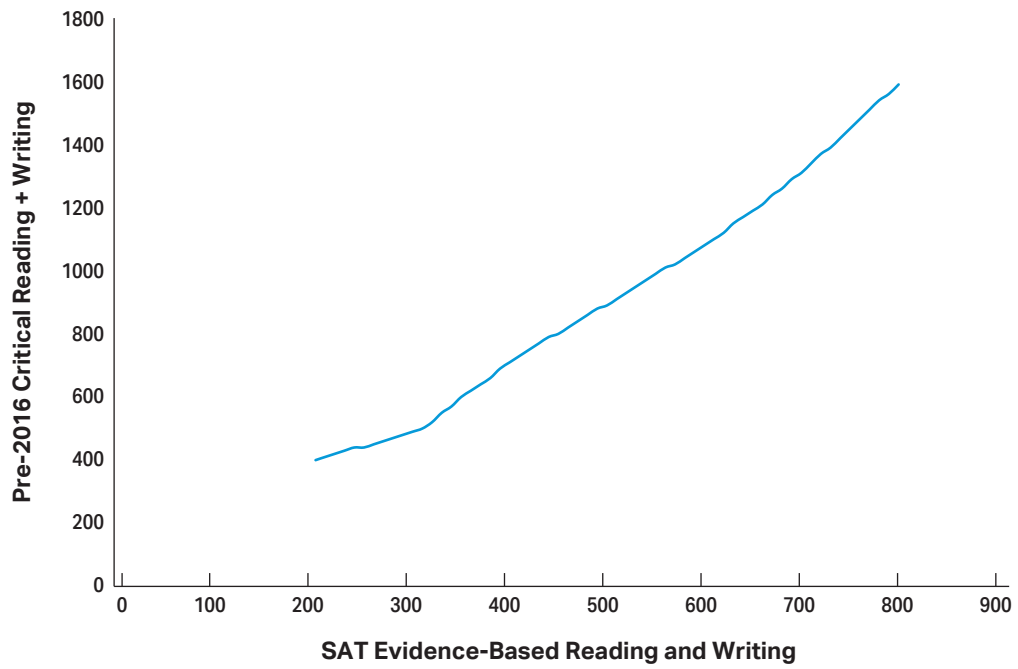




**Table A-7.24: New SAT to Old SAT Concordance Table for Combined Reading and Writing Scores**

<b>New SAT (200–800)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (200–800)</b>	<b>Old SAT (400–1600)</b>
200	400	410	730	620	1120
210	410	420	750	630	1150
220	420	430	770	640	1170
230	430	440	790	650	1190
240	440	450	800	660	1210
250	440	460	820	670	1240
260	450	470	840	680	1260
270	460	480	860	690	1290
280	470	490	880	700	1310
290	480	500	890	710	1340
300	490	510	910	720	1370
310	500	520	930	730	1390
320	520	530	950	740	1420
330	550	540	970	750	1450
340	570	550	990	760	1480
350	600	560	1010	770	1510
360	620	570	1020	780	1540
370	640	580	1040	790	1560
380	660	590	1060	800	1590
390	690	600	1080		
400	710	610	1100		

Figure A-7.8: New SAT to old SAT concordance plot for combined Reading and Writing scores



**Table A-7.25: Old SAT to New SAT Concordance Table for Old SAT Combined Reading and Math Scores to New SAT Total Scores**

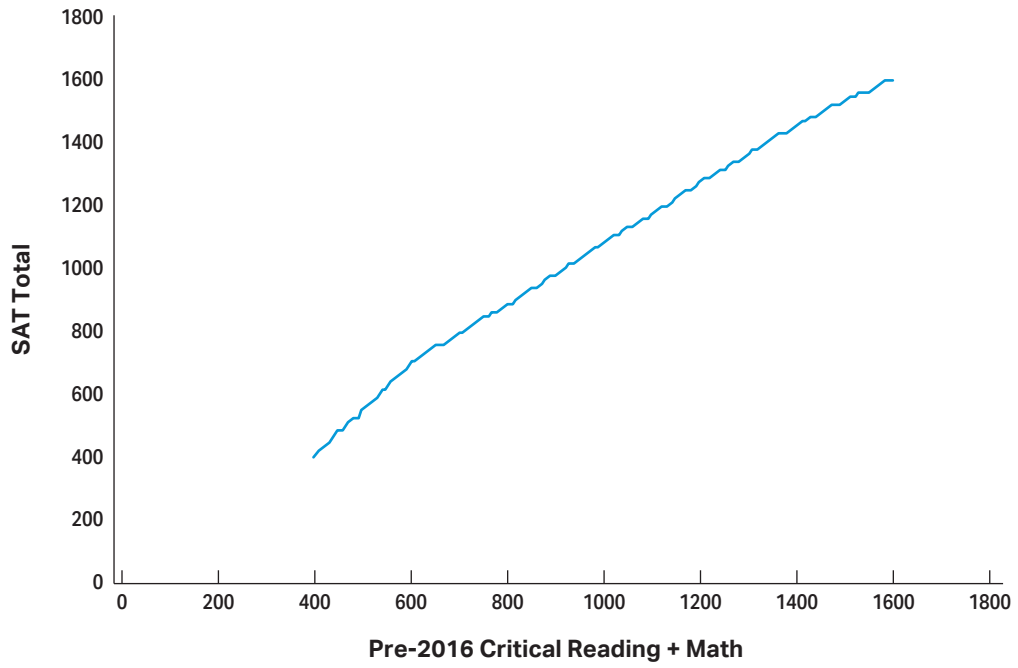
<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>
400	400	650	750	900	980
410	420	660	750	910	990
420	430	670	760	920	1000
430	450	680	770	930	1010
440	460	690	780	940	1020
450	480	700	790	950	1030
460	490	710	800	960	1040
470	510	720	810	970	1050
480	520	730	820	980	1060
490	530	740	830	990	1070
500	550	750	840	1000	1080
510	560	760	850	1010	1090
520	580	770	860	1020	1100
530	590	780	860	1030	1110
540	610	790	870	1040	1120
550	620	800	880	1050	1130
560	640	810	890	1060	1130
570	650	820	900	1070	1140
580	670	830	910	1080	1150
590	680	840	920	1090	1160
600	700	850	930	1100	1170
610	710	860	940	1110	1180
620	720	870	950	1120	1190
630	730	880	960	1130	1200
640	740	890	970	1140	1210

*Table A-7.25 continued on next page*

Table A-7.25 continued from previous page

Old SAT (400–1600)	New SAT (400–1600)	Old SAT (400–1600)	New SAT (400–1600)	Old SAT (400–1600)	New SAT (400–1600)
1150	1220	1310	1370	1470	1510
1160	1230	1320	1380	1480	1510
1170	1240	1330	1390	1490	1520
1180	1250	1340	1400	1500	1530
1190	1260	1350	1410	1510	1540
1200	1270	1360	1420	1520	1540
1210	1280	1370	1420	1530	1550
1220	1290	1380	1430	1540	1560
1230	1300	1390	1440	1550	1560
1240	1310	1400	1450	1560	1570
1250	1310	1410	1460	1570	1580
1260	1320	1420	1470	1580	1590
1270	1330	1430	1480	1590	1590
1280	1340	1440	1480	1600	1600
1290	1350	1450	1490		
1300	1360	1460	1500		

Figure A-7.9: Old SAT to new SAT concordance plot for old SAT combined Reading and Math scores to new SAT total scores



**Table A-7.26: New SAT to Old SAT Concordance Table for New SAT Total Scores to Old SAT Combined Reading and Math Scores**

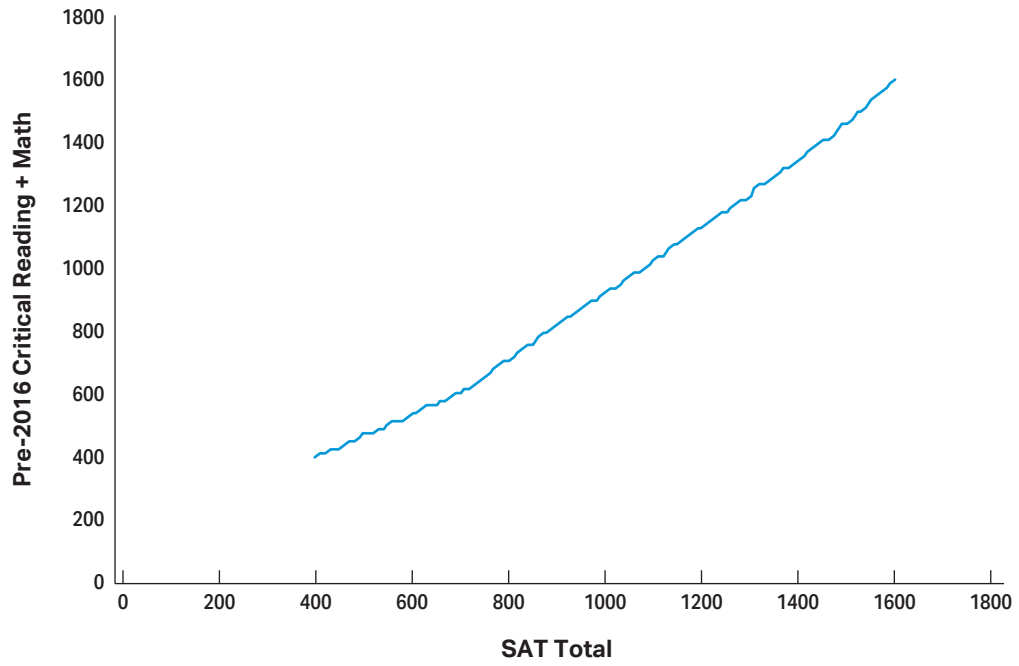
<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>
400	400	640	560	880	800
410	410	650	570	890	810
420	410	660	580	900	820
430	420	670	580	910	830
440	430	680	590	920	840
450	430	690	600	930	850
460	440	700	600	940	860
470	450	710	610	950	870
480	450	720	620	960	880
490	460	730	630	970	890
500	470	740	640	980	900
510	470	750	660	990	910
520	480	760	670	1000	920
530	490	770	680	1010	930
540	490	780	690	1020	940
550	500	790	700	1030	950
560	510	800	710	1040	960
570	510	810	720	1050	970
580	520	820	730	1060	980
590	530	830	740	1070	990
600	540	840	750	1080	1000
610	540	850	760	1090	1010
620	550	860	780	1100	1020
630	560	870	790	1110	1030

*Table A-7.26 continued on next page*

Table A-7.26 continued from previous page

<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (400–1600)</b>
1120	1040	1290	1220	1460	1410
1130	1060	1300	1230	1470	1420
1140	1070	1310	1250	1480	1430
1150	1080	1320	1260	1490	1450
1160	1090	1330	1270	1500	1460
1170	1100	1340	1280	1510	1470
1180	1110	1350	1290	1520	1490
1190	1120	1360	1300	1530	1500
1200	1130	1370	1310	1540	1510
1210	1140	1380	1320	1550	1530
1220	1150	1390	1330	1560	1540
1230	1160	1400	1340	1570	1560
1240	1170	1410	1350	1580	1570
1250	1180	1420	1370	1590	1580
1260	1190	1430	1380	1600	1600
1270	1200	1440	1390		
1280	1210	1450	1400		

Figure A-7.10: New SAT to old SAT concordance plot for new SAT total scores to old SAT combined Reading and Math scores





**Table A-7.27: Old SAT to New SAT Concordance Table for Total Scores**

<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>
600	400	850	660	1100	830
610	410	860	670	1110	830
620	420	870	680	1120	840
630	430	880	690	1130	850
640	440	890	690	1140	850
650	450	900	700	1150	860
660	460	910	710	1160	870
670	470	920	710	1170	870
680	480	930	720	1180	880
690	490	940	730	1190	890
700	500	950	730	1200	890
710	510	960	740	1210	900
720	520	970	740	1220	910
730	530	980	750	1230	910
740	540	990	760	1240	920
750	550	1000	760	1250	930
760	560	1010	770	1260	930
770	580	1020	780	1270	940
780	590	1030	780	1280	950
790	600	1040	790	1290	950
800	610	1050	800	1300	960
810	620	1060	800	1310	970
820	630	1070	810	1320	980
830	640	1080	810	1330	980
840	650	1090	820	1340	990

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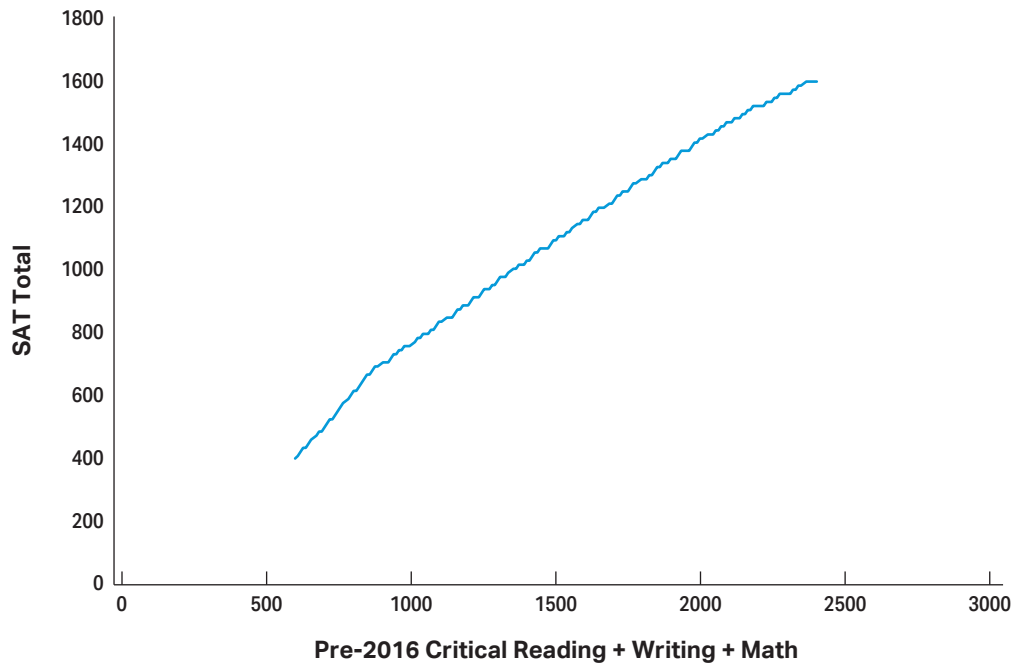
Old SAT (600–2400)	New SAT (400–1600)	Old SAT (600–2400)	New SAT (400–1600)	Old SAT (600–2400)	New SAT (400–1600)
1350	1000	1600	1160	1850	1320
1360	1000	1610	1160	1860	1320
1370	1010	1620	1170	1870	1330
1380	1020	1630	1180	1880	1340
1390	1020	1640	1180	1890	1340
1400	1030	1650	1190	1900	1350
1410	1030	1660	1200	1910	1350
1420	1040	1670	1200	1920	1360
1430	1050	1680	1210	1930	1370
1440	1050	1690	1210	1940	1370
1450	1060	1700	1220	1950	1380
1460	1070	1710	1230	1960	1380
1470	1070	1720	1230	1970	1390
1480	1080	1730	1240	1980	1400
1490	1090	1740	1250	1990	1400
1500	1090	1750	1250	2000	1410
1510	1100	1760	1260	2010	1410
1520	1110	1770	1270	2020	1420
1530	1110	1780	1270	2030	1430
1540	1120	1790	1280	2040	1430
1550	1120	1800	1290	2050	1440
1560	1130	1810	1290	2060	1440
1570	1140	1820	1300	2070	1450
1580	1140	1830	1300	2080	1450
1590	1150	1840	1310	2090	1460

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Old SAT (600–2400)	New SAT (400–1600)	Old SAT (600–2400)	New SAT (400–1600)	Old SAT (600–2400)	New SAT (400–1600)
2100	1470	2210	1520	2320	1570
2110	1470	2220	1520	2330	1570
2120	1480	2230	1530	2340	1580
2130	1480	2240	1530	2350	1580
2140	1490	2250	1540	2360	1590
2150	1490	2260	1540	2370	1590
2160	1500	2270	1550	2380	1590
2170	1500	2280	1550	2390	1600
2180	1510	2290	1550	2400	1600
2190	1510	2300	1560		
2200	1510	2310	1560		

Figure A-7.11: Old SAT to new SAT concordance plot for total scores



**Table A-7.28: New SAT to Old SAT Concordance Table for Total Scores**

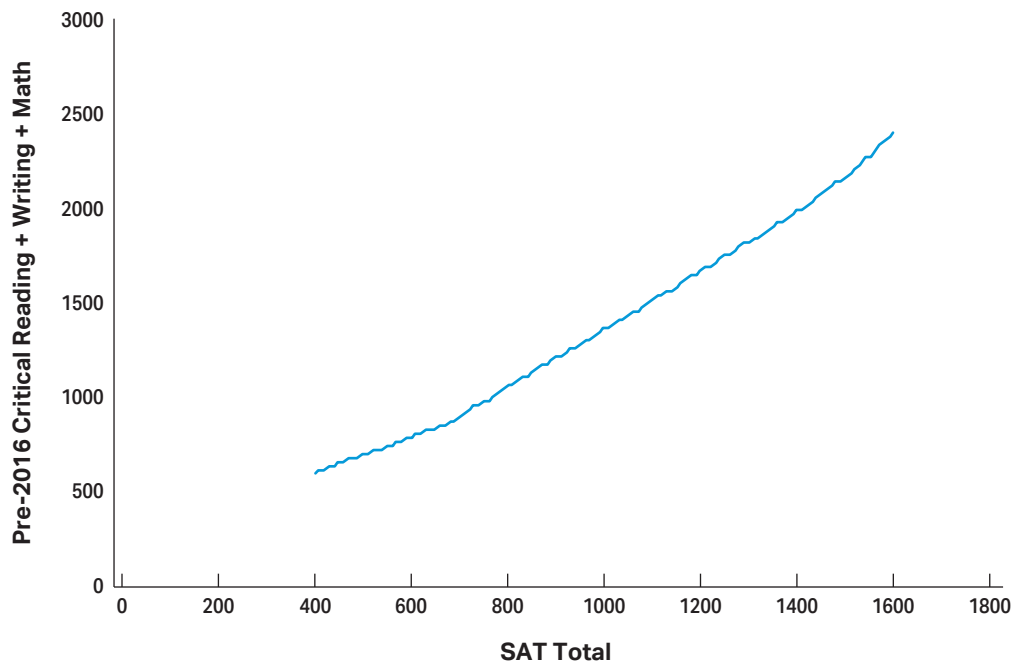
<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>
400	600	650	840	900	1210
410	610	660	850	910	1220
420	620	670	860	920	1240
430	630	680	870	930	1250
440	640	690	880	940	1270
450	650	700	900	950	1280
460	660	710	910	960	1300
470	670	720	930	970	1310
480	680	730	950	980	1330
490	690	740	960	990	1340
500	700	750	980	1000	1360
510	710	760	990	1010	1370
520	720	770	1010	1020	1390
530	730	780	1030	1030	1400
540	730	790	1040	1040	1420
550	740	800	1060	1050	1430
560	750	810	1070	1060	1450
570	760	820	1090	1070	1460
580	770	830	1110	1080	1480
590	780	840	1120	1090	1490
600	790	850	1140	1100	1510
610	800	860	1150	1110	1530
620	810	870	1170	1120	1540
630	820	880	1180	1130	1560
640	830	890	1200	1140	1570

*Table A-7.28 continued on next page*

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<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>	<b>New SAT (400–1600)</b>	<b>Old SAT (600–2400)</b>
1150	1590	1310	1840	1470	2110
1160	1610	1320	1850	1480	2130
1170	1620	1330	1870	1490	2150
1180	1640	1340	1880	1500	2170
1190	1650	1350	1900	1510	2190
1200	1670	1360	1920	1520	2210
1210	1680	1370	1930	1530	2230
1220	1700	1380	1950	1540	2260
1230	1710	1390	1970	1550	2280
1240	1730	1400	1990	1560	2300
1250	1750	1410	2000	1570	2330
1260	1760	1420	2020	1580	2350
1270	1780	1430	2040	1590	2370
1280	1790	1440	2060	1600	2390
1290	1810	1450	2080		
1300	1820	1460	2090		

Figure A-7.12: New SAT to old SAT concordance plot for total scores



**Table A-7.29: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Math Scores**

Old PSAT/NMSQT Math (20–80)	New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)	New PSAT/NMSQT and PSAT 10 Math Test Score (8–38)
20	200	10
21	220	11
22	230	11.5
23	250	12.5
24	260	13
25	280	14
26	300	15
27	310	15.5
28	330	16.5
29	340	17
30	350	17.5
31	360	18
32	360	18
33	370	18.5
34	380	19
35	390	19.5
36	400	20
37	410	20.5
38	420	21
39	430	21.5
40	440	22
41	450	22.5
42	460	23
43	470	23.5
44	480	24

*Table A-7.29 continued on next page*

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Old PSAT/NMSQT Math (20–80)	New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)	New PSAT/NMSQT and PSAT 10 Math Test Score (8–38)
45	490	24.5
46	500	25
47	510	25.5
48	510	25.5
49	520	26
50	530	26.5
51	540	27
52	550	27.5
53	560	28
54	570	28.5
55	570	28.5
56	580	29
57	590	29.5
58	600	30
59	610	30.5
60	620	31
61	630	31.5
62	640	32
63	650	32.5
64	660	33
65	670	33.5
66	690	34.5
67	700	35
68	710	35.5
69	720	36

Table A-7.29 continued on next page



Table A-7.29 continued from previous page

Old PSAT/NMSQT Math (20–80)	New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)	New PSAT/NMSQT and PSAT 10 Math Test Score (8–38)
70	730	36.5
71	740	37
72	750	37.5
73	760	38
74	760	38
75	760	38
76	760	38
77	760	38
78	760	38
79	760	38
80	760	38

**Table A-7.30: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for Math Scores**

<b>New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)</b>	<b>Old PSAT/NMSQT Math (20–80)</b>	<b>New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)</b>	<b>Old PSAT/NMSQT Math (20–80)</b>
160	20	410	37
170	20	420	38
180	20	430	39
190	20	440	40
200	20	450	41
210	20	460	42
220	21	470	43
230	22	480	44
240	22	490	45
250	23	500	46
260	24	510	47
270	24	520	49
280	25	530	50
290	26	540	51
300	26	550	52
310	27	560	53
320	28	570	55
330	28	580	56
340	29	590	57
350	30	600	58
360	31	610	59
370	33	620	60
380	34	630	61
390	35	640	62
400	36	650	63

*Table A-7.30 continued on next page*

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New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)	Old PSAT/NMSQT Math (20–80)	New PSAT/NMSQT and PSAT 10 Math Section Score (160–760)	Old PSAT/NMSQT Math (20–80)
660	64	720	69
670	65	730	70
680	65	740	71
690	66	750	72
700	67	760	74
710	68		

**Table A-7.31: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Reading Scores**

<b>PSAT/NMSQT Critical Reading (20–80)</b>	<b>PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)</b>	<b>PSAT/NMSQT Critical Reading (20–80)</b>	<b>PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)</b>
20	10	45	25
21	11	46	25
22	12	47	26
23	13	48	26
24	13	49	27
25	14	50	27
26	15	51	28
27	16	52	28
28	17	53	29
29	17	54	29
30	18	55	30
31	18	56	30
32	18	57	31
33	19	58	31
34	19	59	32
35	19	60	32
36	20	61	33
37	20	62	33
38	21	63	34
39	21	64	34
40	22	65	35
41	22	66	35
42	23	67	36
43	24	68	36
44	24	69	37

*Table A-7.31 continued on next page*

Table A-7.31 continued from previous page

PSAT/NMSQT Critical Reading (20–80)	PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)	PSAT/NMSQT Critical Reading (20–80)	PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)
70	37	76	38
71	37	77	38
72	38	78	38
73	38	79	38
74	38	80	38
75	38		

Table A-7.32: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for Reading Scores

New PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)	Old PSAT/NMSQT Critical Reading (20–80)	New PSAT/NMSQT and PSAT 10 Reading Test Score (8–38)	Old PSAT/NMSQT Critical Reading (20–80)
8	20	24	44
9	20	25	46
10	20	26	48
11	21	27	50
12	22	28	52
13	24	29	53
14	25	30	55
15	26	31	57
16	27	32	59
17	28	33	61
18	31	34	64
19	34	35	66
20	37	36	68
21	38	37	70
22	40	38	72
23	42		

**Table A-7.33: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Writing Scores**

Old PSAT/NMSQT Writing (20–80)	New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)	Old PSAT/NMSQT Writing (20–80)	New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)
20	10	44	25
21	11	45	26
22	11	46	27
23	12	47	27
24	13	48	28
25	14	49	28
26	14	50	28
27	15	51	29
28	16	52	29
29	17	53	30
30	17	54	30
31	18	55	31
32	18	56	31
33	19	57	32
34	19	58	32
35	20	59	33
36	21	60	33
37	21	61	33
38	22	62	34
39	22	63	34
40	23	64	35
41	24	65	35
42	24	66	35
43	25	67	36

*Table A-7.33 continued on next page*

Table A-7.33 continued from previous page

Old PSAT/NMSQT Writing (20–80)	New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)	Old PSAT/NMSQT Writing (20–80)	New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)
68	36	75	38
69	36	76	38
70	37	77	38
71	37	78	38
72	37	79	38
73	38	80	38
74	38		

Table A-7.34: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for Writing Scores

New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)	Old PSAT/NMSQT Writing (20–80)	New PSAT/NMSQT and PSAT 10 Writing and Language (8–38)	Old PSAT/NMSQT Writing (20–80)
8	20	24	42
9	20	25	43
10	20	26	45
11	22	27	47
12	23	28	49
13	24	29	51
14	26	30	53
15	27	31	55
16	28	32	57
17	30	33	60
18	32	34	63
19	34	35	65
20	35	36	68
21	37	37	71
22	38	38	74
23	40		

**Table A-7.35: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Combined Reading and Writing Scores**

Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)	Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)
40	200	64	370
41	210	65	370
42	220	66	380
43	230	67	380
44	240	68	390
45	260	69	390
46	270	70	400
47	280	71	400
48	290	72	410
49	300	73	410
50	310	74	420
51	310	75	420
52	320	76	430
53	320	77	430
54	330	78	440
55	330	79	440
56	330	80	450
57	340	81	450
58	340	82	460
59	350	83	460
60	350	84	470
61	360	85	480
62	360	86	480
63	360	87	490

*Table A-7.35 continued on next page*



Table A-7.35 continued from previous page

Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)	Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)
88	490	112	620
89	500	113	620
90	500	114	630
91	510	115	630
92	510	116	640
93	520	117	640
94	530	118	650
95	530	119	650
96	540	120	650
97	540	121	660
98	550	122	660
99	550	123	670
100	560	124	670
101	560	125	680
102	570	126	680
103	570	127	680
104	580	128	690
105	580	129	690
106	590	130	700
107	590	131	700
108	600	132	700
109	600	133	710
110	610	134	710
111	610	135	710

Table A-7.35 continued on next page

Table A-7.35 continued from previous page

Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)	Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)
136	720	149	760
137	720	150	760
138	730	151	760
139	730	152	760
140	730	153	760
141	740	154	760
142	740	155	760
143	740	156	760
144	750	157	760
145	750	158	760
146	750	159	760
147	760	160	760
148	760		

**Table A-7.36: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for Combined Reading and Writing Scores**

<b>New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)</b>	<b>Old PSAT/NMSQT Critical Reading + Writing (40–160)</b>	<b>New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)</b>	<b>Old PSAT/NMSQT Critical Reading + Writing (40–160)</b>
160	40	400	71
170	40	410	73
180	40	420	75
190	40	430	77
200	40	440	79
210	41	450	80
220	42	460	82
230	43	470	84
240	44	480	86
250	44	490	88
260	45	500	89
270	46	510	91
280	47	520	93
290	48	530	95
300	49	540	97
310	50	550	99
320	52	560	101
330	55	570	102
340	57	580	104
350	60	590	106
360	62	600	108
370	64	610	110
380	66	620	112
390	69	630	115

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New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)	Old PSAT/NMSQT Critical Reading + Writing (40–160)	New PSAT/NMSQT and PSAT 10 Evidence-Based Reading and Writing (160–760)	Old PSAT/NMSQT Critical Reading + Writing (40–160)
640	117	710	134
650	119	720	137
660	121	730	139
670	124	740	142
680	126	750	145
690	129	760	148
700	131		

**Table A-7.37: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Old PSAT/NMSQT Combined Reading and Math Scores to New PSAT/NMSQT and PSAT 10 Total Scores**

Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
40	400	64	740
41	420	65	750
42	430	66	750
43	450	67	760
44	460	68	770
45	480	69	780
46	490	70	790
47	510	71	800
48	520	72	810
49	530	73	820
50	550	74	830
51	560	75	840
52	580	76	850
53	590	77	860
54	610	78	860
55	620	79	870
56	640	80	880
57	650	81	890
58	670	82	900
59	680	83	910
60	700	84	920
61	710	85	930
62	720	86	940
63	730	87	950

*Table A-7.37 continued on next page*

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Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
88	960	113	1200
89	970	114	1210
90	980	115	1220
91	990	116	1230
92	1000	117	1240
93	1010	118	1250
94	1020	119	1260
95	1030	120	1270
96	1040	121	1280
97	1050	122	1290
98	1060	123	1300
99	1070	124	1310
100	1080	125	1310
101	1090	126	1320
102	1100	127	1330
103	1110	128	1340
104	1120	129	1350
105	1130	130	1360
106	1130	131	1370
107	1140	132	1380
108	1150	133	1390
109	1160	134	1400
110	1170	135	1410
111	1180	136	1420
112	1190	137	1420

Table A-7.37 continued on next page

Table A-7.37 continued from previous page

Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
138	1430	150	1520
139	1440	151	1520
140	1450	152	1520
141	1460	153	1520
142	1470	154	1520
143	1480	155	1520
144	1480	156	1520
145	1490	157	1520
146	1500	158	1520
147	1510	159	1520
148	1510	160	1520
149	1520		

**Table A-7.38: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for New PSAT/NMSQT and PSAT 10 Total Scores to Old PSAT/NMSQT Combined Reading and Math Scores**

New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)
320	40	560	51
330	40	570	51
340	40	580	52
350	40	590	53
360	40	600	54
370	40	610	54
380	40	620	55
390	40	630	56
400	40	640	56
410	41	650	57
420	41	660	58
430	42	670	58
440	43	680	59
450	43	690	60
460	44	700	60
470	45	710	61
480	45	720	62
490	46	730	63
500	47	740	64
510	47	750	66
520	48	760	67
530	49	770	68
540	49	780	69
550	50	790	70

*Table A-7.38 continued on next page*



Table A-7.38 continued from previous page

New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math (40–160)
800	71	1050	97
810	72	1060	98
820	73	1070	99
830	74	1080	100
840	75	1090	101
850	76	1100	102
860	78	1110	103
870	79	1120	104
880	80	1130	106
890	81	1140	107
900	82	1150	108
910	83	1160	109
920	84	1170	110
930	85	1180	111
940	86	1190	112
950	87	1200	113
960	88	1210	114
970	89	1220	115
980	90	1230	116
990	91	1240	117
1000	92	1250	118
1010	93	1260	119
1020	94	1270	120
1030	95	1280	121
1040	96	1290	122

Table A-7.38 continued on next page

Table A-7.38 continued from previous page

<b>New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)</b>	<b>Old PSAT/NMSQT Critical Reading + Math (40–160)</b>	<b>New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)</b>	<b>Old PSAT/NMSQT Critical Reading + Math (40–160)</b>
1300	123	1420	137
1310	125	1430	138
1320	126	1440	139
1330	127	1450	140
1340	128	1460	141
1350	129	1470	142
1360	130	1480	143
1370	131	1490	145
1380	132	1500	146
1390	133	1510	147
1400	134	1520	149
1410	135		

Table A-7.39: Old PSAT/NMSQT to New PSAT/NMSQT and PSAT 10 Concordance Table for Total Scores

Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
60	400	84	650
61	410	85	660
62	420	86	670
63	430	87	680
64	440	88	690
65	450	89	690
66	460	90	700
67	470	91	710
68	480	92	710
69	490	93	720
70	500	94	730
71	510	95	730
72	520	96	740
73	530	97	740
74	540	98	750
75	550	99	760
76	560	100	760
77	580	101	770
78	590	102	780
79	600	103	780
80	610	104	790
81	620	105	800
82	630	106	800
83	640	107	810

Table A-7.39 continued on next page

Table A-7.39 continued from previous page

Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
108	810	132	980
109	820	133	980
110	830	134	990
111	830	135	1000
112	840	136	1000
113	850	137	1010
114	850	138	1020
115	860	139	1020
116	870	140	1030
117	870	141	1030
118	880	142	1040
119	890	143	1050
120	890	144	1050
121	900	145	1060
122	910	146	1070
123	910	147	1070
124	920	148	1080
125	930	149	1090
126	930	150	1090
127	940	151	1100
128	950	152	1110
129	950	153	1110
130	960	154	1120
131	970	155	1120

Table A-7.39 continued on next page

Table A-7.39 continued from previous page

Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
156	1130	180	1290
157	1140	181	1290
158	1140	182	1300
159	1150	183	1300
160	1160	184	1310
161	1160	185	1320
162	1170	186	1320
163	1180	187	1330
164	1180	188	1340
165	1190	189	1340
166	1200	190	1350
167	1200	191	1350
168	1210	192	1360
169	1210	193	1370
170	1220	194	1370
171	1230	195	1380
172	1230	196	1380
173	1240	197	1390
174	1250	198	1400
175	1250	199	1400
176	1260	200	1410
177	1270	201	1410
178	1270	202	1420
179	1280	203	1430

Table A-7.39 continued on next page

Table A-7.39 continued from previous page

Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)
204	1430	223	1520
205	1440	224	1520
206	1440	225	1520
207	1450	226	1520
208	1450	227	1520
209	1460	228	1520
210	1470	229	1520
211	1470	230	1520
212	1480	231	1520
213	1480	232	1520
214	1490	233	1520
215	1490	234	1520
216	1500	235	1520
217	1500	236	1520
218	1510	237	1520
219	1510	238	1520
220	1510	239	1520
221	1520	240	1520
222	1520		

**Table A-7.40: New PSAT/NMSQT and PSAT 10 to Old PSAT/NMSQT Concordance Table for Total Scores**

<b>New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)</b>	<b>Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)</b>	<b>New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)</b>	<b>Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)</b>
320	60	560	75
330	60	570	76
340	60	580	77
350	60	590	78
360	60	600	79
370	60	610	80
380	60	620	81
390	60	630	82
400	60	640	83
410	61	650	84
420	62	660	85
430	63	670	86
440	64	680	87
450	65	690	88
460	66	700	90
470	67	710	91
480	68	720	93
490	69	730	95
500	70	740	96
510	71	750	98
520	72	760	99
530	73	770	101
540	73	780	103
550	74	790	104

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New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)
800	106	1040	142
810	107	1050	143
820	109	1060	145
830	111	1070	146
840	112	1080	148
850	114	1090	149
860	115	1100	151
870	117	1110	153
880	118	1120	154
890	120	1130	156
900	121	1140	157
910	122	1150	159
920	124	1160	161
930	125	1170	162
940	127	1180	164
950	128	1190	165
960	130	1200	167
970	131	1210	168
980	133	1220	170
990	134	1230	171
1000	136	1240	173
1010	137	1250	175
1020	139	1260	176
1030	140	1270	178

Table A-7.40 continued on next page



Table A-7.40 continued from previous page

New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)	New PSAT/NMSQT and PSAT 10 Total (ERW + Math; 320–1520)	Old PSAT/NMSQT Critical Reading + Math + Writing (60–240)
1280	179	1410	200
1290	181	1420	202
1300	182	1430	204
1310	184	1440	206
1320	185	1450	208
1330	187	1460	209
1340	188	1470	211
1350	190	1480	213
1360	192	1490	215
1370	193	1500	217
1380	195	1510	219
1390	197	1520	221
1400	199		

**Table A-7.41: ACT Composite to SAT Total**

<b>ACT Composite Score</b>	<b>New SAT Total (400–1600)</b>	<b>ACT Composite Score</b>	<b>New SAT Total (400–1600)</b>
36	1600	23	1140
35	1570	22	1110
34	1540	21	1070
33	1500	20	1030
32	1470	19	990
31	1430	18	950
30	1400	17	910
29	1360	16	870
28	1320	15	830
27	1290	14	780
26	1260	13	740
25	1220	12	680
24	1180	11	590

**Table A-7.42: ACT Writing (pre-2015) to SAT Writing and Language Test Score**

<b>ACT English/Writing Score</b>	<b>New SAT Writing and Language (10–40)</b>	<b>ACT English/Writing Score</b>	<b>New SAT Writing and Language (10–40)</b>
36	40	23	30
35	40	22	29
34	39	21	28
33	38	20	27
32	37	19	26
31	36	18	25
30	36	17	24
29	35	16	23
28	34	15	22
27	33	14	21
26	33	13	19
25	32	12	19
24	31	11	18

**Table A-7.43: SAT Total to ACT Composite**

<b>New SAT Total (400–1600)</b>	<b>ACT Composite Score</b>	<b>New SAT Total (400–1600)</b>	<b>ACT Composite Score</b>	<b>New SAT Total (400–1600)</b>	<b>ACT Composite Score</b>
1600	36	1350	29	1100	22
1590	35	1340	28	1090	21
1580	35	1330	28	1080	21
1570	35	1320	28	1070	21
1560	35	1310	28	1060	21
1550	34	1300	27	1050	20
1540	34	1290	27	1040	20
1530	34	1280	27	1030	20
1520	34	1270	26	1020	20
1510	33	1260	26	1010	19
1500	33	1250	26	1000	19
1490	33	1240	26	990	19
1480	32	1230	25	980	19
1470	32	1220	25	970	18
1460	32	1210	25	960	18
1450	32	1200	25	950	18
1440	31	1190	24	940	18
1430	31	1180	24	930	17
1420	31	1170	24	920	17
1410	30	1160	24	910	17
1400	30	1150	23	900	17
1390	30	1140	23	890	16
1380	29	1130	23	880	16
1370	29	1120	22	870	16
1360	29	1110	22	860	16

*Table A-7.43 continued on next page*

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New SAT Total (400–1600)	ACT Composite Score	New SAT Total (400–1600)	ACT Composite Score	New SAT Total (400–1600)	ACT Composite Score
850	15	750	13	650	12
840	15	740	13	640	12
830	15	730	13	630	12
820	15	720	13	620	11
810	15	710	12	610	11
800	14	700	12	600	11
790	14	690	12	590	11
780	14	680	12	580	11
770	14	670	12	570	11
760	14	660	12	560	11

Table A-7.44: SAT Writing and Language Test Score to ACT Writing (pre-2015)

New SAT Writing and Language (10–40)	ACT English/ Writing Score	New SAT Writing and Language (10–40)	ACT English/ Writing Score	New SAT Writing and Language (10–40)	ACT English/ Writing Score
40	34	32	25	24	17
39	33	31	24	23	16
38	33	30	23	22	15
37	32	29	22	21	14
36	30	28	21	20	13
35	29	27	20	19	13
34	28	26	19	18	12
33	26	25	18	17	11

**Table A-7.45: College Outcomes: By College and Career Readiness Benchmark Status**

		Variable	Met College and Career Readiness Benchmark	Did Not Meet College and Career Readiness Benchmark
<b>Four-Year College Outcomes</b>	Percent attaining	Enrolled in remedial coursework in first year	5.3	26.7
		Retained to second year	88.8	77.6
		Retained to third year	81.4	64.0
		Graduated in 4 years	52.6	27.6
		Graduated in 5 years	76.1	51.9
	Mean	FYGPA	3.07	2.57
		CumGPA	3.25	2.90
	<b>Two-Year College Outcomes</b>	Percent attaining	Enrolled in remedial coursework in first year	30.6
Retained to second year or transferred to a 4-year school			85.7	80.1
Retained to third year or transferred to a 4-year school			71.7	62.8
Graduated in 2 years			13.5	6.7
Graduated in 3 years			28.3	19.8
Mean		FYGPA	2.81	2.30
		CumGPA	2.73	2.23
<b>Workforce Training Outcomes</b>		Percent attaining	Graduated in 2 years	10.3
	Graduated in 3 years		27.8	22.0
	Mean	Overall FYGPA	3.08	2.75
		Occupational FYGPA	3.26	2.94
		Overall CumGPA	3.12	2.78
		Occupational CumGPA	3.28	3.01

Note: Remedial coursework at 2-year institutions is defined as coursework for which either no credit is awarded or for which credits can't be applied toward a degree. Remedial coursework at a 4-year college is defined as coursework for which credit can't be applied toward graduation.

**Table A-7.46: College Outcomes in Social Science/History, Literature, and Writing Courses: By Evidence-Based Reading and Writing Benchmark Status**

Variable			Met the ERW Benchmark	Did Not Meet the ERW Benchmark
<b>Four-Year College Outcomes</b>	Percent	Enrolled in Reading/Writing remedial coursework in first year	4.0	25.5
	Mean	Literature/Social Science/History/Writing FYGPA	3.02	2.29
<b>Two-Year College Outcomes</b>	Percent	Enrolled in Reading/Writing remedial coursework in first year	15.7	52.9
	Mean	Literature/Social Science/History/Writing FYGPA	2.71	2.03

**Table A-7.47: College Outcomes in Math Courses: By Math Benchmark Status**

Variable			Met the Math Benchmark	Did Not Meet the Math Benchmark
<b>Four-Year College Outcomes</b>	Percent	Enrolled in Math remedial coursework in first year	2.7	17.5
	Mean	Math FYGPA	2.79	2.14
<b>Two-Year College Outcomes</b>	Percent	Enrolled in Math remedial coursework in first year	3.1	27.7
	Mean	Math FYGPA	2.50	1.94