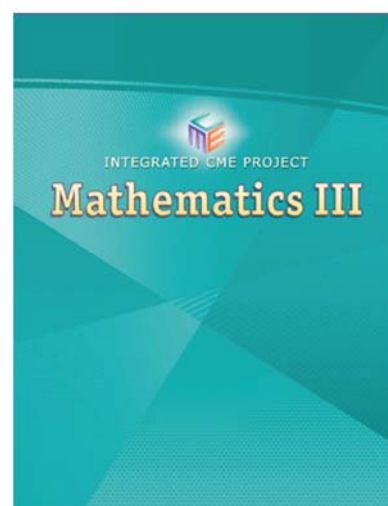
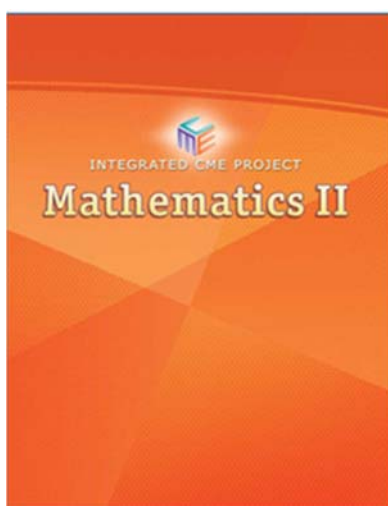
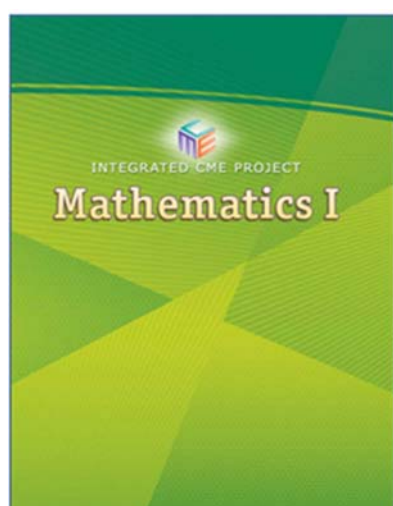


A Correlation of
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Integrated CME Project
Mathematics I-III
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To the
SAT Math Test
Measured Content and Skills
High School

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

Table of Contents

HEART OF ALGEBRA	1
PROBLEM SOLVING AND DATA ANALYSIS	7
PASSPORT TO ADVANCED MATH	13
ADDITIONAL TOPICS IN MATH.....	19

**A Correlation of Pearson Integrated CME Project Mathematics I-III
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
HEART OF ALGEBRA: LINEAR EQUATIONS AND FUNCTIONS	
SAT HEART OF ALGEBRA DOMAIN	
Content Dimension	
Linear equations in one variable	
1. Create and use linear equations in one variable to solve problems in a variety of contexts.	Mathematics I SE/TE: 126-131, 132-133, 134, 135-137, 138-142, 143-147, 148-152, 153, 155-156, 157, 159-161, 162-166, 167-171
2. Create a linear equation in one variable, and when in context interpret solutions in terms of the context.	Mathematics I SE/TE: 130, 132, 142, 149-150, 153-156, 157, 159-161, 162-166, 167-171
3. Solve a linear equation in one variable, making strategic use of algebraic structure.	Mathematics I SE/TE: 126-131, 132-133, 134, 135-137, 138-142, 143-147, 148-152, 153, 155-156, 157, 161, 166, 171
4. For a linear equation in one variable	
a. interpret a constant, variable, factor, or term in a context;	Mathematics I SE/TE: 131, 132, 134, 136-137, 142, 147, 158, 159-161, 162-166, 167-171, 172-177, 178
b. determine the conditions under which the equation has no solution, a unique solution, or infinitely many solutions	Mathematics I SE/TE: 127, 148-152, 157, 171, 176, 355
5. Fluently solve a linear equation in one variable.	Mathematics I SE/TE: 126-131, 132-133, 134, 135-137, 138-142, 143-147, 148-152, 153-156, 157, 161, 166, 171
Linear functions Algebraically, a linear function can be defined by a linear expression in one variable or by a linear equation in two variables. In the first case, the variable is the input and the value of the expression is the output. In the second case, one of the variables is designated as the input and determines a unique value of the other variable, which is the output.	
1. Create and use linear functions to solve problems in a variety of contexts.	Mathematics I SE/TE: 366-371, 387-388, 390-395, 396-397, 426, 427-430, 431-439, 440-446, 450-455, 464, 467 Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
(Continued) 1. Create and use linear functions to solve problems in a variety of contexts.	Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569
2. Create a linear function to model a relationship between two quantities.	Mathematics I SE/TE: 366-371, 387-388, 390-394, 396, 426, 427-430, 433-439, 440-446, 450-455, 467 Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258 Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569
3. For a linear function that represents a context,	
a. 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;	Mathematics I SE/TE: 366-371, 387-388, 390-395, 396-397, 426, 427-430, 431-439, 440-446, 450-455, 464, 467 Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258 Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569
b. given an input value, find and/or interpret the output value using the given representation;	Mathematics I SE/TE: 366, 369, 387-388, 391, 393-394, 396, 429, 434-436, 438-439, 442-446, 453, 455, 464, 467 Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258 Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569
c. given an output value, find and/or interpret the input value using the given representation, if it exists.	Mathematics I SE/TE: 369, 387-388, 445, 464 Mathematics II SE/TE: 289-291 Mathematics III SE/TE: 131, 134

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
4. Make connections between verbal, tabular, algebraic, and graphical representations of a linear function by	
a. deriving one representation from the other;	<p>Mathematics I SE/TE: 366-371, 387-388, 390-395, 396-397, 426, 427-430, 431-439, 440-446, 450-455, 464, 467</p> <p>Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258</p> <p>Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569</p>
b. identifying features of one representation given another representation;	<p>Mathematics I SE/TE: 366-371, 387-388, 390-395, 396-397, 426, 427-430, 433-439, 440-446, 450-455, 464</p> <p>Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258</p> <p>Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569</p>
c. determining how a graph is affected by a change to its equation	<p>Mathematics I SE/TE: 387-388, 390-395, 396, 431-432, 434, 437, 452, 455, 464</p> <p>Mathematics II SE/TE: 235, 254, 301, 337-338, 362</p> <p>Mathematics III SE/TE: 127, 538-539</p>
5. Write the rule for a linear function given two input/output pairs or one input/output pair and the rate of change.	<p>Mathematics I SE/TE: 366-371, 387-388, 390-394, 396, 426, 427-430, 433-439, 440-446, 450-455, 467</p> <p>Mathematics II SE/TE: 235-237, 238-242, 245, 246-251, 252-258</p> <p>Mathematics III SE/TE: 106, 127-129, 130-136, 538-539, 569</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
<p>Linear equations in two variables A linear equation in two variables can be used to represent a constraint or condition on two-variable quantities in situations where neither of the variables is regarded as an input or an output. A linear equation can also be used to represent a straight line in the coordinate plane.</p>	
<p>1. Create and use a linear equation in two variables to solve problems in a variety of contexts.</p>	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
<p>2. Create a linear equation in two variables to model a constraint or condition on two quantities.</p>	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
<p>3. For a linear equation in two variables that represents a context,</p>	
<p>a. interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage;</p>	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
<p>b. given a value of one quantity in the relationship, find a value of the other, if it exists.</p>	<p>Mathematics I SE/TE: 276, 283-284, 286-287, 292-293, 294</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
<p>4. Make connections between tabular, algebraic, and graphical representations of a linear equation in two variables by</p>	
<p>a. deriving one representation from the other;</p>	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
b. identifying features of one representation given the other representation;	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
c. determining how a graph is affected by a change to its equation	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 520-528, 537-542, 558-565</p>
5. 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.	<p>Mathematics I SE/TE: 274, 275-278, 279-283, 284-288, 289-293, 294-295</p> <p>Mathematics III SE/TE: 537-542, 558-565</p>
Systems of two linear equations in two variables	
1. Create and use a system of two linear equations in two variables to solve problems in a variety of contexts.	<p>Mathematics I SE/TE: 289-293, 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 323, 324, 327-328</p>
2. Create a system of linear equations in two variables, and when in context interpret solutions in terms of the context.	<p>Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 324, 327-328</p>
3. Make connections between tabular, algebraic, and graphical representations of the system by deriving one representation from the other.	<p>Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 323, 324, 327-328</p>
4. Solve a system of two linear equations in two variables, making strategic use of algebraic structure.	<p>Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 323, 324, 327-328</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
5. For a system of linear equations in two variables,	
a. interpret a solution, constant, variable, factor, or term based on the context, including situations where seeing structure provides an advantage;	Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 323, 324, 327-328
b. determine the conditions under which the system has no solution, a unique solution, or infinitely many solutions.	Mathematics I SE/TE: 296, 299, 305, 307, 308-312, 317-318, 319
6. Fluently solve a system of linear equations in two variables.	Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319, 320, 323, 324, 327-328
Linear inequalities in one or two variables	
1. Create and use linear inequalities in one or two variables to solve problems in a variety of contexts.	Mathematics I SE/TE: 320, 321-323, 328, 329-336, 337-344, 345-354, 355
2. Create linear inequalities in one or two variables, and when in context interpret the solutions in terms of the context.	Mathematics I SE/TE: 320, 321-323, 329-336, 337-344, 345-354, 355
3. For linear inequalities in one or two variables, interpret a constant, variable, factor, or term, including situations where seeing structure provides an advantage.	Mathematics I SE/TE: 320, 321-323, 329-336, 337-344, 345-354, 355
4. Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other.	Mathematics I SE/TE: 320, 321-323, 328, 329-336, 337-344, 345-354, 355
5. Given a linear inequality or system of linear inequalities, interpret a point in the solution set.	Mathematics I SE/TE: 320, 321-323, 328, 329-336, 337-344, 345-354, 355

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
PROBLEM SOLVING AND DATA ANALYSIS: PROPORTIONAL RELATIONSHIPS, PERCENTAGES, COMPLEX MEASUREMENTS, AND DATA INTERPRETATION AND SYNTHESIS	
SAT PROBLEM SOLVING AND DATA ANALYSIS DOMAIN	
Content Dimension	
Ratios, rates, proportional relationships, and units Items will require students to solve problems by using a proportional relationship between quantities, calculating or using a ratio or rate, and/or using units, derived units, and unit conversion.	
1. 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.	<p>Mathematics I SE/TE: 225-227, 252, 468, 676</p> <p>Mathematics II SE/TE: 536-543, 544-547, 548-550, 551-556, 557, 561-564, 565-571, 572-573, 577-582, 583-586, 587-590, 591, 595-599, 600-607, 746-752</p> <p>Mathematics III SE/TE: 137-144, 300-305, 600-607, 612</p>
2. Solve problems involving	
a. derived units, including those that arise from products (e.g., kilowatt-hours) and quotients (e.g., population per square kilometer);	<p>Mathematics I SE/TE: 74, 102, 168, 171, 232, 254-256, 258-261, 289, 293, 295, 356, 370</p> <p>Mathematics II SE/TE: 45, 190, 231 TE Only: 458</p> <p>Mathematics III SE/TE: 213, 438, 517, 520-521</p>
b. unit conversion, including currency exchange and conversion between different measurement systems.	<p>Mathematics I SE/TE: 67, 131, 132, 183, 264, 368-370</p> <p>Mathematics II SE/TE: 190, 535, 633</p> <p>Mathematics III SE/TE: 396, 399, 526</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
3. 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.	<p>Mathematics I SE/TE: 225-227</p> <p>Mathematics II SE/TE: 231, 536-543, 544-547, 548-550, 551-556, 557, 561-564</p> <p>Mathematics III SE/TE: 137-144, 300-305, 600-607, 612</p>
Percentages	
1. 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.	<p>Mathematics I SE/TE: 80, 108, 114, 368-369, 371, 404, 442, 445, 456-461, 462, 468, 492</p> <p>Mathematics II SE/TE: 331, 388 (TE only), 395-398, 542</p> <p>Mathematics III SE/TE: 198, 229, 261, 265-266, 288-289, 612, 639</p>
2. Understand and use the relationship between percent change and growth factor (5% and 1.05, for example); include percentages greater than or equal to 100%.	<p>Mathematics I SE/TE: 456-461, 462-466, 468</p> <p>Mathematics II SE/TE: 324-325, 329, 331</p> <p>Mathematics III SE/TE: 142, 600-607, 662-667</p>
One-variable data: distributions and measures of center and spread	
1. Choose an appropriate graphical representation for a given data set.	<p>Mathematics I SE/TE: 488-494, 495-502</p> <p>Mathematics II SE/TE: 405</p> <p>Mathematics III SE/TE: 242-244, 253, 256-257, 262, 264, 266, 268-270, 273-274, 277, 279-281, 283, 286, 287-288, 292</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
2. Interpret information from a given representation of data in context.	<p>Mathematics I SE/TE: 488-494, 495-502</p> <p>Mathematics II SE/TE: 68, 144, 234, 393-394, 395-400</p> <p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>
3. Analyze and interpret numerical data distributions represented with frequency tables, histograms, dot plots, and boxplots.	<p>Mathematics I SE/TE: 488-494, 495-502</p> <p>Mathematics II SE/TE: 393-394, 395-400</p> <p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>
4. For quantitative variables, calculate, compare, and interpret mean, median, and range. Interpret (but don't calculate) standard deviation.	<p>Mathematics I SE/TE: 170, 421, 477-480, 481-487, 488-494, 495-502, 541, 549</p> <p>Mathematics II SE/TE: 32, 40</p> <p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>
5. 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.	<p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
6. Understand and describe the effect of outliers on mean and median.	Mathematics I SE/TE: 493
7. Given an appropriate data set, calculate the mean.	Mathematics I SE/TE: 170, 421, 477-480, 481-487, 488-494, 495-502, 541, 549 Mathematics II SE/TE: 40 Mathematics III SE/TE: 211-217, 218-226, 227-232, 233
Two-variable data: models and scatterplots	
1. Using a model that fits the data in a scatterplot, compare values predicted by the model to values given in the data set	Mathematics I SE/TE: 225, 228-230, 462, 511-519, 524-526, 528-535, 536-542, 543-549, 550 Mathematics II TE Only: 414
2. Interpret the slope and intercepts of the line of best fit in context.	Mathematics I SE/TE: 528-535, 536-542, 543-549, 550
3. Given a relationship between two quantities, read and interpret graphs and tables modeling the relationship.	Mathematics I SE/TE: 225, 228-230, 462, 511-519, 523-526, 528-535, 536-542, 543-549, 550 Mathematics II SE/TE: 178, 180, 186, 238-245, 246-251, 252-258, 259-268, 269 Mathematics III SE/TE: 17-24, 25-29, 30, 572-576, 592-599, 600-607, 648-656
4. Analyze and interpret data represented in a scatterplot or line graph; fit linear, quadratic, and exponential models.	Mathematics I SE/TE: 225, 228-230, 432, 463, 511-519, 524-526, 528-535, 536-542, 543-549, 550 Mathematics II SE/TE: 178, 180, 186

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
5. Select a graph that represents a context, identify a value on a graph, or interpret information on the graph.	<p>Mathematics I SE/TE: 225, 228-230, 432, 463, 511-519, 524-526, 528-535, 536-542, 543-549, 550</p> <p>Mathematics II SE/TE: 178, 180, 186, 299-304, 306-307</p> <p>Mathematics III SE/TE: 335-339, 340-344, 403-407, 424-431, 510-519, 549-557, 592-599, 642-647</p>
6. For a given function type (linear, quadratic, exponential), choose the function of that type that best fits given data.	<p>Mathematics I SE/TE: 225, 228-230, 432, 450, 463, 511-519, 524-526, 528-535, 536-542, 543-549, 550</p> <p>Mathematics II SE/TE: 178, 180, 186, 238-245, 246-251, 252-258, 259-268, 269, 306, 308</p> <p>Mathematics III SE/TE: 17-24, 25-29, 30, 572-576, 592-599, 600-607, 648-656</p>
7. Compare linear and exponential growth.	<p>Mathematics I SE/TE: 450, 524-526, 528-535, 536-542, 543-549, 550</p> <p>Mathematics II SE/TE: 313, 326, 331, 333</p> <p>Mathematics III SE/TE: 130-136, 137-144, 589-591, 592-599, 600-607, 608-614, 615-621, 622</p>
8. Estimate the line of best fit for a given scatterplot; use the line to make predictions.	<p>Mathematics I SE/TE: 511-519, 524-526, 528-535, 536-542, 543-549, 550</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
SAT PROBLEM SOLVING AND DATA ANALYSIS DOMAIN	
Content Dimension	
Probability and conditional probability Use one- and two-way tables, tree diagrams, area models, and other representations to find relative frequency, probabilities, and conditional probabilities.	
1. Compute and interpret probability and conditional probability in simple contexts.	<p>Mathematics I SE/TE: 10-11, 169, 404, 486, 505-506</p> <p>Mathematics II SE/TE: 379-380, 381-387, 388-394, 395-400</p> <p>Mathematics III SE/TE: 175-176, 177-183, 184-189, 190-197, 198-205, 206</p>
2. Understand formulas for probability and conditional probability in terms of frequency.	<p>Mathematics I SE/TE: 505-506</p> <p>Mathematics II SE/TE: 379-380, 381-387, 388-394, 395-400</p> <p>Mathematics III SE/TE: 175-176, 177-183, 184-189, 190-197, 198-205, 206</p>
Inference from sample statistics and margin of error	
1. Use sample mean and sample proportion to estimate population mean and population proportion. Utilize, but do not calculate, margin of error.	<p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>
2. Interpret margin of error; understand that a larger sample size generally leads to a smaller margin of error.	<p>Mathematics III SE/TE: 261-270</p>
Evaluating statistical claims: observational studies and experiments	
1. With random samples, describe which population the results can be extended to.	<p>Mathematics II SE/TE: 395-400, 407-414</p> <p>Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
2. Given a description of a study with or without random assignment, determine whether there is evidence for a causal relationship.	Mathematics III SE/TE: 227-232, 235-236, 237-246, 247-251, 252-260, 261-270, 271
3. Understand why random assignment provides evidence for a causal relationship.	Mathematics III SE/TE: 227-232, 235-236, 237-246, 247-251, 252-260, 261-270, 271
4. Understand why a result can be extended only to the population from which the sample was selected.	Mathematics II SE/TE: 395-400, 407-414 Mathematics III SE/TE: 209-210, 211-217, 218-226, 227-232, 233, 235-236, 237-246, 247-251, 252-260, 261-270, 271, 273-276, 277-286, 287-292, 293
PASSPORT TO ADVANCED MATH: ANALYZING ADVANCED EXPRESSIONS	
SAT PASSPORT TO ADVANCED MATH DOMAIN	
Content Dimension	
Equivalent expressions	
1. Make strategic use of algebraic structure and the properties of operations to identify and create equivalent expressions, including	
a. rewriting simple rational expressions;	Mathematics III SE/TE: 69-72, 73, 545-548, 549-557, 558-565, 566
b. rewriting expressions with rational exponents and radicals;	Mathematics I SE/TE: 413-418 Mathematics II SE/TE: 5-6, 7-11, 12-15, 16-20, 21-27, 28-32, 33, 35-36, 37-41, 42-47, 48-53, 54-58, 59 Mathematics III SE/TE: 597, 599, 612, 626
c. factoring polynomials.	Mathematics I SE/TE: 324-325 Mathematics II SE/TE: 113-116, 117-124, 125-132, 133-142, 143, 144

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
(Continued) c. factoring polynomials.	Mathematics III SE/TE: 33-34, 35-40, 41-46, 47, 49-50, 51-54, 55-61, 62-68, 73
2. Fluently add, subtract, and multiply polynomials.	Mathematics II SE/TE: 89-91, 92-98, 99-104, 105-109, 110
Nonlinear equations in one variable and systems of equations in two variables	
1. Make strategic use of algebraic structure, the properties of operations, and reasoning about equality to	
a. 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;	Mathematics I SE/TE: 112, 327 Mathematics II SE/TE: 123-124, 127, 130, 132, 133, 135-136, 138-142, 143, 153-154, 155-161, 162-166, 167-171, 172, 188, 220 Mathematics III SE/TE: 53-54
b. solve simple rational and radical equations in one variable;	Mathematics II SE/TE: 5, 14, 18, 28, 30-32, 33 Mathematics III SE/TE: 67, 557
c. 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);	Mathematics III SE/TE: 636, 643
d. solve polynomial equations in one variable that are written in factored form;	Mathematics I SE/TE: 112 Mathematics II 123-124, 127, 130, 132, 133, 135-136, 138-142, 143 Mathematics III SE/TE: 45, 50, 66, 478-484

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
e. solve linear absolute value equations in one variable;	For related content, please see: Mathematics I SE/TE: 203, 237-238, 240, 241, 331
f. solve systems of linear and nonlinear equations in two variables, including relating the solutions to the graphs of the equations in the system.	Mathematics I SE/TE: 296, 297-299, 300-307, 308-312, 313-318, 319 Mathematics II SE/TE: 326, 806, 810, 884-888, 889-898 Mathematics III SE/TE: 602-603
2. 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.	Mathematics II SE/TE: 123-124, 127, 130, 132, 133, 135-136, 138-142, 143, 153-154, 155-161, 162-166, 167-171, 172, 188, 220, 314-315, 333
3. 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.	Mathematics I SE/TE: 98, 102, 131-132, 168, 264, 459-461, 530, 660, 662-668, 669-673, 674-678 Mathematics II SE/TE: 189, 262, 655, 757
4. 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.	Mathematics II SE/TE: 123-124, 127, 130, 132, 133, 135-136, 138-142, 143, 153-154, 155-161, 162-166, 167-171, 172, 188, 220 Mathematics III SE/TE: 53-54

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
SAT PASSPORT TO ADVANCED MATH DOMAIN Content Dimension	
Nonlinear functions	
1. Create and use quadratic or exponential functions to solve problems in a variety of contexts.	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
2. For a quadratic or exponential function,	
a. identify or create an appropriate function to model a relationship between quantities;	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
b. use function notation to represent and interpret input/output pairs in terms of a context and points on the graph	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
c. 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	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
d. 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;	<p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201</p> <p>Mathematics III SE/TE: 51-54, 721</p>
ii. selecting the form of an exponential that displays the initial value, the end-behavior (for exponential decay), or the doubling or halving time;	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
e. make connections between tabular, algebraic, and graphical representations of the function by	
i. given one representation, selecting another representation;	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
ii. identifying features of one representation given another representation, including maximum and minimum values of the function;	<p>Mathematics I SE/TE: 447-454, 456-461, 462-466, 467, 468</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
iii. determining how a graph is affected by a change to its equation, including a vertical shift or scaling of the graph.	<p>Mathematics I SE/TE: 459, 462-466</p> <p>Mathematics II SE/TE: 175-176, 177-182, 183-191, 192-200, 201, 313-315, 316-323, 324-331, 332, 335-337, 338-346, 347-355, 356-364, 365</p> <p>Mathematics III SE/TE: 572-576, 592-599, 600-607, 608-614, 615-621, 622, 648-656</p>
3. For a factorable or factored polynomial or simple rational function,	
a. use function notation to represent and interpret input/output pairs in terms of a context and points on the graph;	<p>Mathematics II SE/TE: 235-237, 259-268, 269</p> <p>Mathematics III SE/TE: 13-16, 17-24, 25-29, 30, 507-509, 510-519, 520-528, 529-536, 537-542, 543, 545-548, 549-557, 558-565, 566, 569-571, 572-576, 577-580, 581</p>
b. understand and use the fact that for the graph of $y = f(x)$, the solutions to $f(x) = 0$ correspond to x -intercepts of the graph and $f(0)$ corresponds to the y -intercept of the graph; interpret these key features in terms of a context;	<p>Mathematics I SE/TE: 324-325</p> <p>Mathematics II SE/TE: 113-116, 117-124, 125-132, 133-142, 143, 162-166, 167-171, 183-191, 192-200, 299-309</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
(Continued) b. understand and use the fact that for the graph of $y = f(x)$, the solutions to $f(x) = 0$ correspond to x -intercepts of the graph and $f(0)$ corresponds to the y -intercept of the graph; interpret these key features in terms of a context;	Mathematics III SE/TE: 13-16, 17-24, 25-29, 30, 507-509, 510-519, 520-528, 529-536, 537-542, 543, 545-548, 549-557, 558-565, 566, 569-571, 572-576, 577-580, 581
c. identify the graph given an algebraic representation of the function and an algebraic representation given the graph (with or without a context).	Mathematics I SE/TE: 324-325 Mathematics II SE/TE: 183-191, 192-200, 299-309, 335-337, 338-346, 347-355, 356-364, 365 Mathematics III SE/TE: 13-16, 17-24, 25-29, 30, 507-509, 510-519, 520-528, 529-536, 537-542, 543, 545-548, 549-557, 558-565, 566, 569-571, 572-576, 577-580, 581
ADDITIONAL TOPICS IN MATH	
SAT ADDITIONAL TOPICS IN MATH DOMAIN Content Dimension	
Area and volume	
1. 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.	Mathematics I SE/TE: 25, 51, 66, 96, 100, 107, 136, 193, 224, 228, 234, 565, 613, 660, 678 Mathematics II SE/TE: 623-625, 626-634, 635-640, 641, 643-644, 645-649, 650-653, 654-660, 661, 693-698, 728-734, 753-759, 763-768, 769-772, 773-779, 780-787, 788-794, 795 Mathematics III SE/TE: 356-362, 380-385, 715-718, 719-724, 725-727, 728-732, 733

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
a. Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k , changes all areas by a factor of k^2 , and changes all volumes by a factor of k^3 .	<p>Mathematics II SE/TE: 533-535, 536-543, 544-547, 548-550, 551-556, 557, 559-560, 561-564, 565-571, 572, 600-607, 608-612</p> <p>Mathematics III SE/TE: 728-732</p>
b. Demonstrate procedural fluency by selecting the correct area or volume formula and correctly calculating a specified value.	<p>Mathematics I SE/TE: 25, 51, 66, 100, 193, 228, 660, 678, 753-759, 763-768, 769-772, 773-779, 780-787, 788-794, 795</p> <p>Mathematics II SE/TE: 623-625, 626-634, 635-640, 641, 643-644, 645-649, 650-653, 654-660, 661, 693-698, 728-734, 753-759, 763-768, 769-772, 773-779, 780-787, 788-794, 795</p> <p>Mathematics III SE/TE: 356-362, 380-385, 715-718, 719-724, 725-727, 728-732, 733</p>
Lines, angles, and triangles	
1. Use concepts and theorems relating to congruence and similarity of triangles to solve problems.	<p>Mathematics I SE/TE: 604, 605-606, 611-613, 614-618, 619, 648-656</p> <p>Mathematics II SE/TE: 428-433, 593-594, 595-599, 600-607, 608-612, 613</p>
2. Determine which statements may be required to prove certain relationships or to satisfy a given theorem.	<p>Mathematics I SE/TE: 308-312, 313, 402, 640-641, 663, 669-670, 676 TE Only: 148-149, 296</p> <p>Mathematics II SE/TE: 455-461, 479-480, 481-486, 487-488, 489-494, 495-498, 499-504, 505, 583-586, 587-590, 814-820</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
3. Apply knowledge that changing by a scale factor of k changes all lengths by a factor of k , but angle measures remain unchanged.	<p>Mathematics II SE/TE: 533-535, 536-543, 544-547, 548-550, 551-556, 557, 559-560, 561-564, 565-571, 572, 600-607, 608-612</p> <p>Mathematics III SE/TE: 728-732</p>
4. Know and directly apply relevant theorems such as	
a. the vertical angle theorem;	<p>Mathematics II SE/TE: 457-458, 463, 466-468, 474, 498</p>
b. triangle similarity and congruence criteria;	<p>Mathematics I SE/TE: 604, 605-606, 611-613, 614-618, 619, 648-656</p> <p>Mathematics II SE/TE: 428-433, 593-594, 595-599, 600-607, 608-612, 613</p>
c. triangle angle sum theorem;	<p>Mathematics I SE/TE: 575-576, 585, 652</p> <p>Mathematics II SE/TE: 438, 452, 454, 461, 471, 473, 477, 479, 555, 601</p>
d. the relationship of angles formed when a transversal cuts parallel lines.	<p>Mathematics II SE/TE: 452, 453, 462-468, 469-476, 477, 481, 485-486, 554, 587, 605, 607</p>
Right triangles and trigonometry	
1. Solve problems in a variety of contexts using	
a. the Pythagorean theorem;	<p>Mathematics I SE/TE: 245, 663-664</p> <p>Mathematics II SE/TE: 21, 123, 560, 606, 638, 677, 690, 701, 703, 716-721, 729-730, 737-738, 743-744, 748, 827, 836, 852-853</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
b. right triangle trigonometry;	<p>Mathematics II SE/TE: 907-912</p> <p>Mathematics III SE/TE: 300-305</p>
c. properties of special right triangles.	<p>Mathematics II SE/TE: 741-745, 746-752</p> <p>Mathematics III SE/TE: 300-305</p>
2. Use similarity to calculate values of sine, cosine, and tangent.	<p>Mathematics II SE/TE: 741-745, 746-752</p> <p>Mathematics III SE/TE: 300-305</p>
3. Understand that when given one side length and one acute angle measure in a right triangle, the remaining values can be determined.	<p>Mathematics II SE/TE: 907-912</p> <p>Mathematics III SE/TE: 300-305</p>
4. Solve problems using the relationship between sine and cosine of complementary angles.	<p>Mathematics II SE/TE: 911-912</p> <p>Mathematics III SE/TE: 300-305, 320, 333, 347</p>
5. Fluently apply properties of special right triangles to determine side lengths and calculate trigonometric ratios of 30, 45, and 60 degrees.	<p>Mathematics II SE/TE: 741-745, 746-752</p> <p>Mathematics III SE/TE: 300-305</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
Circles	
1. 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.	<p>Mathematics I SE/TE: 570-572, 577-580, 586, 587, 589, 591-594, 597, 617, 630, 637, 654, 666</p> <p>Mathematics II SE/TE: 623-625, 626-634, 635-640, 641, 643-644, 645-649, 650-653, 654-660, 661, 663-665, 666-673, 674-679, 680-685, 686-692, 693-698, 699</p>
2. Solve problems using	
a. radian measure;	<p>Mathematics II SE/TE: 664-660</p> <p>Mathematics III SE/TE: 394, 395-396, 397-402, 407, 408, 418</p>
b. trigonometric ratios in the unit circle.	<p>Mathematics II SE/TE: 906, 913-915, 916-919, 921 TE Only: 736, 858</p> <p>Mathematics III SE/TE: 307-309, 310-315, 316-321, 322-326, 327-330, 331, 333-334, 335-339, 340-344, 345-350, 351, 395-396, 397-402, 403-407, 408-413, 414-417, 418, 421-423, 424-431, 432-440, 441</p>
3. Create an equation to represent a circle in the xy -plane.	<p>Mathematics I SE/TE: 198, 217, 222, 268, 637</p> <p>Mathematics II SE/TE: 802-803, 812, 820, 821, 825-826, 827</p>
4. Describe how	
a. a change to the equation representing a circle in the xy -plane affects the graph of the circle;	<p>Mathematics I SE/TE: 198, 217, 222, 268, 637</p> <p>Mathematics II SE/TE: 802-803, 812, 820, 821, 825-826, 827</p>

**A Correlation of Pearson Integrated CME Project
To the SAT Math Test Measured Content and Skills**

SAT Math Test Measured Content and Skills	Integrated CME Project Mathematics I-III
b. a change in the graph of the circle affects the equation of the circle.	<p>Mathematics I SE/TE: 198, 217, 222, 268, 637</p> <p>Mathematics II SE/TE: 802-803, 812, 820, 821, 825-826, 827</p>
5. Understand that the ordered pairs that satisfy an equation of the form $(x - h)^2 + (y - k)^2 = r^2$ form a circle when plotted in the xy -plane.	<p>Mathematics II SE/TE: 802-803, 812, 820, 821, 825-826, 827</p>
6. Convert between angle measures in degrees and radians.	<p>Mathematics II SE/TE: 664-660</p> <p>Mathematics III SE/TE: 394, 395-396, 397, 399, 401, 407, 408, 418</p>
7. Complete the square in an equation representing a circle to determine properties of the circle when it is graphed in the xy -plane, and use the distance formula in problems related to circles.	<p>Mathematics II SE/TE: 802-803, 812, 820, 821, 825-826, 827</p>
Complex numbers	
1. Apply knowledge and understanding of the complex number system to add, subtract, multiply, and divide with complex numbers and solve problems.	<p>Mathematics II SE/TE: 203-204, 205-209, 210-215, 216-221, 222-226, 227, 865-872, 873-878</p> <p>Mathematics III SE/TE: 449-450, 451-455, 456-460, 461-468, 469, 471-473, 474-477, 478-484, 485-490, 491-499, 500</p>