



# Math Teachers Press, Inc.

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## SOUTH CAROLINA ACADEMIC STANDARDS FOR MATHEMATICS CORRELATED TO *MOVING WITH ALGEBRA GRADE 8*

		Part A Student Book Skill Builders (SB)	Part B Student Book Skill Builders (SB)
<b>MATHEMATICAL PROCESSES</b>			
<b>8-1:</b>	<b>The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</b>		
<b>8-1.1</b>	Generate and solve complex abstract problems that involve modeling physical, social, or mathematical phenomena.	34-40, 46-48, 56, 64-76, 85, 87, 88, 110, 122, 128, 129, 131, 132, 134-136, 139, 140, 143, 144, 147-150, 152-154, 157, 161-166, 168, 170, 174, 176-178 <b>SB:</b> 29, 33, 34, 37, 39, 40, 47, 54-56, 58, 59, 66, 91, 102, 105, 106, 108-112, 117-123, 125	201, 202, 206-210, 212, 213, 216-219, 221, 222, 224, 225, 244-248, 251-270 <b>SB:</b> 168, 175, 178, 180, 182, 185-189, 202-204, 208-210, 212
<b>8-1.2</b>	Evaluate conjectures and pose follow-up questions to prove or disprove conjectures.	Throughout	Throughout
<b>8-1.3</b>	Use inductive and deductive reasoning to formulate mathematical arguments.	Throughout	199, 307-309 <b>SB:</b> 166, 234, 235
<b>8-1.4</b>	Understand equivalent symbolic expressions as distinct symbolic forms that represent the same relationship.	122 <b>SB:</b> 102	221, 231, 232 <b>SB:</b> 196, 197
<b>8-1.5</b>	Generalize mathematical statements based on inductive and deductive reasoning.	32-35, 54, 55, 58, 59, 105, 106, 116, 118, 119, 145, 146, 159, 160 <b>SB:</b> 27, 28, 30, 44-46, 51-53, 87, 88, 101, 119, 128,	Throughout

		<b>Part A Student Book Skill Builders (SB)</b>	<b>Part B Student Book Skill Builders (SB)</b>
<b>8-1.6</b>	Use correct and clearly written or spoken words, variables, and notations to communicate about significant mathematical task.	Throughout	Throughout
<b>8-1.7</b>	Generalize connections among a variety of representational forms and real-world situations.	Throughout	Throughout
<b>8-1.8</b>	Use standard and nonstandard representations to convey and support mathematical relationships.	Throughout	Throughout
<b>NUMBER AND OPERATIONS</b>			
<b>8-2:</b>	<b>The student will demonstrate through the mathematical processes an understanding of operations with integers, the effects of multiplying and dividing with rational numbers, the comparative magnitude of rational and irrational numbers, the approximation of cube and square roots, and the application of proportional reasoning.</b>		
<b>8-2.1</b>	Apply an algorithm to add, subtract, multiply, and divide integers.	68-78 <b>SB:</b> 56-60	244-248 <b>SB:</b> 202-206
<b>8-2.2</b>	Understand the effect of multiplying and dividing a rational number by another rational number.	107-115, 147-154, 157 <b>SB:</b> 89-99, 120-123, 125-127	
<b>8-2.3</b>	Represent the approximate location of irrational numbers on a number line.		
<b>8-2.4</b>	Compare rational and irrational numbers by using the symbols $\leq$ , $\geq$ , $<$ , $>$ , and $=$ .		
<b>8-2.5</b>	Apply the concept of absolute value.		242, 243 <b>SB:</b> 201
<b>8-2.6</b>	Apply strategies and procedures to approximate between two whole numbers the square roots or cube roots of numbers less than 1,000.		217 <b>SB:</b> 185
<b>8-2.7</b>	Apply ratios, rates, and proportions.	122 <b>SB:</b> 102	220-222, 224-227, 275-278 <b>SB:</b> 187-189, 191, 192, 222, 223, 246
<b>ALGEBRA</b>			
<b>8-3:</b>	<b>The student will demonstrate through the mathematical processes an understanding of equations, inequalities, and linear functions.</b>		

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<b>8-3.1</b>	Translate among verbal, graphic, tabular, and algebraic representations of linear functions.		231, 232, 311-317 <b>SB:</b> 196, 197, 236-239, 254
<b>8-3.2</b>	Represent algebraic relationships with equations and inequalities.		266, 267, 273, 274, 276, 277, 279-287, 325, 328, 332, 333 <b>SB:</b> 217, 218, 222-225
<b>8-3.3</b>	Use commutative, associative, and distributive properties to examine the equivalence of a variety of algebraic expressions.		268, 269, 298 <b>Sb:</b> 220
<b>8-3.4</b>	Apply procedures to solve multistep equations.		260, 261, 266, 267, 270-272 <b>SB:</b> 216-219, 221, 245, 250, 251
<b>8-3.5</b>	Classify relationships between two variables in graphs, tables, and/or equations as either linear or nonlinear.		313, 318, 319 <b>SB:</b> 240
<b>8-3.6</b>	Identify the coordinates of the $x$ - and $y$ -intercepts of a linear equation from a graph, equation and/or table.		324-328, 332, 333 <b>SB:</b> 243, 249
<b>8-3.7</b>	Identify the slope of a linear equation from a graph, equation, and/or table.		321-328 <b>SB:</b> 241-243, 249
	<b>GEOMETRY</b>		
<b>8-4:</b>	<b>The student will demonstrate through the mathematical processes an understanding of the Pythagorean Theorem; the use of ordered pairs, equations, intercepts, and intersections to locate points and lines in a coordinate plane; and the effect of a dilation in a coordinate plane.</b>		
<b>8-4.1</b>	Apply the Pythagorean Theorem.		219 <b>SB:</b> 186
<b>8-4.2</b>	Use ordered pairs, equations, intercepts, and intersections to locate points and lines in a coordinate plane.		201, 202, 232, 310-314, 316-319, 322-328 <b>SB:</b> 168, 197, 236-240, 242, 243, 249, 254
<b>8-4.3</b>	Apply a dilation to a square, rectangle, or right triangle in a coordinate plane.		223, 224
<b>8-4.4</b>	Analyze the effect of a dilation on a square, rectangle, or right triangle in a coordinate plane.		224

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<b>MEASUREMENT</b>			
<b>8-5:</b>	<b>The student will demonstrate through the mathematical processes an understanding of the proportionality of similar figures; the necessary levels of accuracy and precision in measurement; the use of formulas to determine circumference, perimeter, area, and volume; and the use of conversions within and between the U.S. Customary System and the metric system.</b>		
<b>8-5.1</b>	Use proportional reasoning and the properties of similar shapes to determine the length of a missing side.		225 SB: 189
<b>8-5.2</b>	Explain the effect on the area of two-dimensional shapes and on the volume of three-dimensional shapes when one or more of the dimensions are changed.		210, 213 SB: 183
<b>8-5.3</b>	Apply strategies and formulas to determine the volume of the three-dimensional shapes cone and sphere.		
<b>8-5.4</b>	Apply formulas to determine the exact ( $\pi$ ) circumference and area of a circle.		?????
<b>8-5.5</b>	Apply formulas to determine the perimeters and areas of trapezoids.		
<b>8-5.6</b>	Analyze a variety of measurement situations to determine the necessary level of accuracy and precision.		
<b>8-5.7</b>	Use multistep unit analysis to convert between and within U.s. Customary System and the metric system.		233, 234 SB: 198, 199
<b>DATA ANALYSIS AND PROBABILITY</b>			
<b>8-6:</b>	<b>The student will demonstrate through the mathematical processes an understanding of the relationships between two variables within one population or sample.</b>		
<b>8-6.1</b>	Generalize the relationship between two sets of data by using scatterplots and lines of best fit.		
<b>8-6.2</b>	Organize data in matrices or scatterplots as appropriate.		
<b>8-6.3</b>	Use theoretical an experimental probability to make inferences and convincing arguments about an event or events.		

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<b>8-6.4</b>	Apply procedures to calculate the probability of two dependent event.		
<b>8-6.5</b>	Interpret the probability for two dependent events.		
<b>8-6.6</b>	Apply procedures to compute the odds of a given event.		
<b>8-6.7</b>	Analyze probability using area models.		
<b>8-6.8</b>	Interpret graphic and tabular data representations by using range and the measures of central tendency (mean, median, and mode).	56, 57 <b>SB:</b> 47-50	