



MathScape

Seeing and Thinking Mathematically

Course 3

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STANDARDS	PAGE REFERENCES
<p>Eighth Grade Algebra Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use procedures to transform algebraic expressions.</p>	
<p>8.A.1.1. Students are able to use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.</p>	
<ul style="list-style-type: none"> Properties include associative, commutative, distributive, and identity properties. 	<p>Student Edition: 186-187, 196-197, 212, 216</p> <p>Teacher's Guide: 186A, 197A, 206A</p> <p>Quick Review Math Handbook Book 3: 78, 79, 284, 285, 286, 304</p> <p>Math Skills Maintenance Workbook Course 3: 60, 61, 62, 63</p>
<ul style="list-style-type: none"> Use order of operations with exponents and nested parentheses. 	<p>Student Edition: 186-187, 196-197, 204-205, 206-207, 212, 216</p> <p>Teacher's Guide: 186A, 206A</p> <p>Quick Review Math Handbook Book 3: 82, 304</p> <p>Math Skills Maintenance Workbook Course 3: 1, 2</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Determine if two 1st degree algebraic expressions are equivalent. 	<p>Student Edition: 148-149, 184-185, 186-187, 188-189, 194-195, 210-213</p> <p>Teacher's Guide: 146, 147, 149A, 179G, 179H, 182A, 184A</p> <p>Quick Review Math Handbook Book 3: 282, 287</p>
<p>Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.</p>	
<p>8.A.2.1. Students are able to write and solve two-step 1st degree equations, with one variable, and one-step inequalities, with one variable, using the set of integers.</p>	
<ul style="list-style-type: none"> Inverse operations 	<p>Student Edition: 144-145, 204-205, 206-207, 208-209, 219, 220, 221</p> <p>Teacher's Guide: 145A, 204A</p> <p>Quick Review Math Handbook Book 3: 296</p>
<ul style="list-style-type: none"> Addition property of equality. 	<p>Student Edition: 144-145, 202-203, 204-205, 206-207, 208-209, 218, 219, 220, 221</p> <p>Teacher's Guide: 145A, 202A, 203A, 204A, 209A</p> <p>Quick Review Math Handbook Book 3: 304</p>
<ul style="list-style-type: none"> Multiplication property of equality. 	<p>Student Edition: 144-145, 186-187, 204-205, 206-207, 208-209, 212, 219, 220, 221</p> <p>Teacher's Guide: 145A, 186A, 204A, 209A</p> <p>Quick Review Math Handbook Book 3: 304</p>

STANDARDS	PAGE REFERENCES
Indicator 3: Interpret and develop mathematical models.	
8.A.3.1. Students are able to describe and determine linear relationships.	
<ul style="list-style-type: none"> Determine slope from a line or ordered pairs on a graph. 	<p>Student Edition: 226-227, 242-243, 256, 262, 280-281, 305</p> <p>Teacher's Guide: 223H, 225, 226A, 278, 280A</p> <p>Quick Review Math Handbook Book 3: 324-327</p>
<ul style="list-style-type: none"> Identify x and y intercepts from a graph. 	<p>Student Edition: 274-275, 276-277, 280-281, 282-283, 284-285, 305, 306, 307</p> <p>Teacher's Guide: 225, 240, 241, 276A, 282A</p> <p>Quick Review Math Handbook Book 3: 329, 330, 331-334</p>
Indicator 4: Describe and use properties and behaviors of relations, functions, and inverses.	
<p>8.A.4.1. Students are able to create rules to explain the relationship between numbers when a change in the first variable affects the second variable.</p>	<p>Student Edition: 272-273, 276-277, 288-289, 292-293, 302, 304, 308, 310</p> <p>Teacher's Guide: 270, 277A</p>
8.A.4.2. Students are able to describe and represent relations using tables, graphs, and rules.	
<ul style="list-style-type: none"> Represent situations with patterns and relations to find exact or approximate solutions to problems. 	<p>Student Edition: 138-139, 140-141, 142-143, 144-145, 160-161, 164-165, 166, 167, 168, 169, 175, 177, 272-273, 274-275, 302, 303</p> <p>Teacher's Guide: 136, 137, 165A</p> <p>Quick Review Math Handbook Book 3: 202, 206-210</p> <p>Math Skills Maintenance Workbook Course 3: 76, 77</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Make predictions relating two variables using a rule or a graph. 	<p>Student Edition: 144-145, 150-151, 152-153, 164-165, 169, 171, 172, 177, 272-273, 276-277, 280-281, 282-283, 284-285, 302, 304, 305</p> <p>Teacher's Guide: 136, 137, 144A, 145A, 146, 147, 156-157, 284A</p>
<p>Eighth Grade Geometry Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use deductive and inductive reasoning to recognize and apply properties of geometric figures.</p>	
<p>8.G.1.1. Students are able to describe and classify prisms, pyramids, cylinders, and cone.</p>	<p>Student Edition: 110-111, 114-115, 116-117, 120-121</p> <p>Teacher's Guide: 114A, 116A, 117A</p> <p><i>Quick Review Math Handbook Book 3:</i> 356</p>
<p>8.G.1.2. Students, when given any two sides of an illustrated right triangle, are able to use the Pythagorean Theorem to find the third side.</p>	<p>Student Edition: 236-237, 238-239, 260, 261</p> <p>Teacher's Guide: 223, 223G, 232, 237A, 238A, 239A</p> <p><i>Quick Review Math Handbook Book 3:</i> 369, 395, 396</p>
<p>Indicator 2: Use properties of geometric figures to solve problems from a variety of perspectives.</p>	
<p>8.G.2.1. Students are able to write and solve proportions that express the relationships between corresponding parts of similar quadrilaterals and triangles.</p>	<p>Student Edition: 251, 252-253, 254-255, 265, 266, 267</p> <p>Teacher's Guide: 254A</p> <p><i>Quick Review Math Handbook Book 3:</i> 424</p>

STANDARDS	PAGE REFERENCES
<p>Eighth Grade Measurement Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Apply measurement concepts in practical applications.</p>	
<p>8.M.1.1. Students are able to apply proportional reasoning to solve measurement problems with rational number measurements.</p>	
<ul style="list-style-type: none"> Conversion within measurement systems. 	<p>Student Edition: 16-17, 50-51, 52-53, 118-119</p> <p>Teacher’s Guide: 48, 51A, 52A</p> <p>Quick Review Math Handbook Book 3: 408, 409, 413, 414, 415, 418, 420, 421, 423</p> <p>Math Skills Maintenance Workbook Course 3: 65, 68</p>
<ul style="list-style-type: none"> Use scale drawings to represent situations. 	<p>Student Edition: 120-121, 133, 228-229, 230-231, 238-239, 254-255, 257, 258, 261, 267</p> <p>Teacher’s Guide: 120A, 229A, 231A, 238A, 254A</p> <p>Quick Review Math Handbook Book 3: 425-427</p>
<ul style="list-style-type: none"> Indirect measurement. 	<p>Student Edition: 230-231, 238-239, 246-247, 250-251, 258, 262, 264, 265</p> <p>Teacher’s Guide: 241</p>
<p>8.M.1.2. Students are able to find area, volume, and surface area with whole number measurements.</p>	
<ul style="list-style-type: none"> Use appropriate unit of measure. 	<p>Student Edition: 98-99, 118-119, 124, 132</p> <p>Teacher’s Guide: 99A, 118A, 119A</p> <p>Quick Review Math Handbook Book 3: 408, 413, 416, 420</p> <p>Math Skills Maintenance Workbook Course 3: 71, 72</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Apply strategies and/or formulas. 	<p>Student Edition: 104-105, 106-107, 109, 110-111, 114-115, 116-117, 126, 127, 128, 129</p> <p>Teacher's Guide: 102, 103, 105A, 107A, 109A, 114A, 117A</p> <p>Quick Review Math Handbook Book 3: 372-374, 378-380, 382-385</p> <p>Math Skills Maintenance Workbook Course 3: 72</p>
<ul style="list-style-type: none"> Volume of rectangular prisms, rectangular pyramids, cylinders, and cones. 	<p>Student Edition: 98-99, 104-105, 108-109, 116-117, 120-121, 124, 126, 129, 131, 133</p> <p>Teacher's Guide: 98A, 99A, 102, 103, 109A, 112, 113, 117A</p> <p>Quick Review Math Handbook Book 3: 383-385</p>
<ul style="list-style-type: none"> Surface area of rectangular prisms and cylinders. 	<p>Student Edition: 98-99, 104-105, 106-107, 108-109, 120-121, 124, 126, 127, 128, 129, 133</p> <p>Teacher's Guide: 98A, 99A, 102, 103, 106A, 108A, 109A</p> <p>Quick Review Math Handbook Book 3: 378, 380</p>
<ul style="list-style-type: none"> Area of composite shapes. 	<p>Student Edition: 110-111, 120-121, 129, 133</p> <p>Teacher's Guide: 110A, 121A</p> <p>Quick Review Math Handbook Book 3: 371 (can be used to illustrate this standard)</p>

STANDARDS	PAGE REFERENCES
<p>Eighth Grade Number Sense Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.</p>	
<p>8.N.1.1. Students are able to represent numbers in a variety of forms and identify the subsets of rational numbers.</p>	
<ul style="list-style-type: none"> Exponents 	<p>Student Edition: 296-297, 298-299, 311, 312</p> <p>Teacher’s Guide: 294-295 <i>Handbook #3</i></p> <p>Quick Review Math Handbook Book 3: 168, 169, 188</p> <p>Math Skills Maintenance Workbook Course 3: 1, 2</p>
<ul style="list-style-type: none"> Scientific notation 	<p>Student Edition: 300-301, 313, 320</p> <p>Teacher’s Guide: 269H</p> <p>Quick Review Math Handbook Book 3: 182-186 <i>Handbook #3</i></p>
<ul style="list-style-type: none"> Absolute value 	<p>Student Edition: See Glencoe’s <i>MathScape: Seeing and Thinking Mathematically Course 2</i> © 2005 page 314 (glossary)</p> <p>Teacher’s Guide: 92 <i>Handbook #3</i></p>
<ul style="list-style-type: none"> Radicals (perfect squares) 	<p>Student Edition: 106-107, 108-109, 112-113, 128, 131</p> <p>Teacher’s Guide: See Glencoe’s <i>MathScape: Seeing and Thinking Mathematically Course 2</i> © 2005 106A</p> <p>Quick Review Math Handbook Book 3: 173 <i>Handbook #2</i></p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Graph on a number line 	<p>Student Edition: 186-187, 213</p> <p>Teacher's Guide: Also see Glencoe's <i>MathScape: Seeing and Thinking Mathematically Course 2</i> © 2005 186A</p>
<p>Indicator 2: Apply number operations with real numbers and other number systems.</p>	
<p>8.N.2.1. Students are able to read, write, and compute within any subset of rational numbers.</p>	
<ul style="list-style-type: none"> Solve problems involving discount, markup, commission, profit, and simple interest. 	<p>Student Edition: See Glencoe's <i>MathScape: Seeing and Thinking Mathematically Course 2</i> © 2005 30-31, 44, 228-229, 230, 231, 232-233, 246-247, 248-249, 254-255, 256-257, 258, 259, 260, 265, 266, 268, 269</p> <p>Teacher's Guide: 30A, 226, 227, 233A, 246A, 249A</p> <p>Quick Review Math Handbook Book 3: 150, 152 Handbook #3</p> <p>Math Skills Maintenance Workbook Course 3: 79</p>
<p>Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p>	
<p>8.N.3.1. Students are able to use various strategies to solve multi-step problems involving rational numbers.</p>	
<ul style="list-style-type: none"> Explain strategies and justify answers. 	<p>Student Edition: 6-7, 10-11, 72-73, 81, 82, 138-139, 150-151, 164-165, 166, 169, 173, 184-185, 188-189, 206-207, 211, 213, 220</p> <p>Teacher's Guide: 6A, 7A, 11A, 73A, 137, 150A, 185A</p> <p>Quick Review Math Handbook Book 3: 141-142, 150, 198, 209, 210, 282</p>
<ul style="list-style-type: none"> Formulate rules to solve practical problems involving rational numbers. 	<p>Student Edition: 54-55, 80, 148-149, 194-195, 196-197, 202-203, 206-207, 217 #16</p> <p>Teacher's Guide: 149A, 203A</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use estimation strategies to make predictions and test the reasonableness of the answer. √ <i>Formulate counter-examples to disclaim given assertions.</i> 	<p>Student Edition: 138-139, 140-141, 144-145, 150-151, 160-161, 166, 167, 169, 171, 176</p> <p>Teacher's Guide: 137, 138A, 145A, 160A</p> <p>Quick Review Math Handbook Book 3: 138, 139 #29, #30, 372</p>
<p>Eighth Grade Statistics & Probability Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.</p>	
<p>8.S.1.1. Students are able to find the mean, median, mode, and range of a data set from a stem-and-leaf plot and a line plot.</p>	<p>Student Edition: 12-13, 16-17, 37, 38</p> <p>Teacher's Guide: 5, 12A, 13A</p> <p>Quick Review Math Handbook Book 3: 208</p> <p>Math Skills Maintenance Workbook Course 3: 78 #3, #4, 79 #1, #5</p>
<p>8.S.1.2. Students are able to use a variety of visual representations to display data to make comparisons and predictions.</p>	
<ul style="list-style-type: none"> Double bar graph 	<p>Student Edition: 6-7, 34</p> <p>Teacher's Guide: R2</p> <p>Quick Review Math Handbook Book 3: 210, 211</p> <p>Math Skills Maintenance Workbook Course 3: 76 #8</p>
<ul style="list-style-type: none"> Double line graph 	<p>Student Edition: See Glencoe's <i>MathScope: Seeing and Thinking Mathematically Course 1</i> © 2005 42 #1, 362 #6</p> <p>Math Skills Maintenance Workbook Course 3: 77 #8</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Scatter plot 	<p>Student Edition: 18-23, 39-41, 152-155, 158-161, 172</p> <p>Teacher's Guide: 3H, 14</p> <p><i>Quick Review Math Handbook Book 3:</i> 214-217</p>
<p>Indicator 2: Apply the concepts of probability to predict events/outcomes and solve problems.</p>	
<p>8.S.2.1. Students are able to find the sample space and compute probability for two simultaneous independent events.</p>	
<ul style="list-style-type: none"> Express probability as a ratio, decimal, or percent. 	<p>Student Edition: 26-27</p> <p>Teacher's Guide: 24</p> <p><i>Quick Review Math Handbook Book 3:</i> 243</p>