



MathScape

Seeing and Thinking Mathematically

Course 2

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STANDARDS	PAGE REFERENCES
<p>Seventh Grade Algebra Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use procedures to transform algebraic expressions.</p>	
<p>7.A.1.1. Students are able to write and evaluate algebraic expressions using the set of whole numbers.</p>	
<ul style="list-style-type: none"> Use replacement values for variables. 	<p>Student Edition: 182, 184-185, 188-189, 204-205, 212, 220, 221</p> <p>Teacher's Guide: 185A, 205A</p> <p>Quick Review Math Handbook Book 2: 258 #7, 276-278</p>
<ul style="list-style-type: none"> Use order of operations. 	<p>Student Edition: 238-239, 262</p> <p>Quick Review Math Handbook Book 2: 276</p> <p>Math Skills Maintenance Workbook Course 2: 19, 20, 21, 22</p>
<p>7.A.1.2. Students are able to identify associative, commutative, distributive, and identity properties involving algebraic expressions.</p> <ul style="list-style-type: none"> ✓ Use the associative, commutative, distributive, and identity properties. 	<p>Student Edition: 188-189, 214</p> <p>Teacher's Guide: 189A</p> <p>Quick Review Math Handbook Book 2: 76, 77, 268, 269, 270-272, 288</p> <p>Math Skills Maintenance Workbook Course 2: 72-75</p>

STANDARDS	PAGE REFERENCES
Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.	
7.A.2.1. Students are able to write and solve one-step 1st degree equations, with one variable, using the set of integers and inequalities, with one variable, using the set of whole numbers.	
<ul style="list-style-type: none"> Addition property of equality. 	Student Edition: 188-189, 206-207, 221 Teacher's Guide: 189A, 206A, 207A Quick Review Math Handbook Book 2: 259, 283, 284, 291
<ul style="list-style-type: none"> Multiplication property of equality. 	Student Edition: 188-189, 206-207, 221 Teacher's Guide: 189A, 206A, 207A Quick Review Math Handbook Book 2: 259, 283, 284, 291
<ul style="list-style-type: none"> Inverse operations. 	Student Edition: 206-207, 221 Teacher's Guide: 203 Quick Review Math Handbook Book 2: 259, 283, 284, 291
Indicator 3: Interpret and develop mathematical models.	
7.A.3.1. Students are able to identify and graph ordered pairs on a coordinate plane and inequalities on a number line.	
<ul style="list-style-type: none"> Quadrants I-IV 	Student Edition: 194-195, 216, 288-289, 308 Teacher's Guide: 194A, 195A, 289A Quick Review Math Handbook Book 2: 300-306
<ul style="list-style-type: none"> Use a scatterplot to draw an approximate line of best fit in a coordinate plane. 	Student Edition: 244-245, 264, 295 Teacher's Guide: 245A Quick Review Math Handbook Book 2: 206-207

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7.A.3.2. Students are able to model and solve multi-step problems involving rates.	
<ul style="list-style-type: none"> Better buy 	Student Edition: 6-7, 8-9, 10-11, 12-13, 34, 35, 36, 37 Teacher's Guide: 6A, 7A
<ul style="list-style-type: none"> Unit rates 	Student Edition: 6-7, 8-9, 10-11, 12-13, 34, 36, 37 Teacher's Guide: 4, 5, 6A, 7A, 9A, 13A
Indicator 4: Describe and use properties and behaviors of relations, functions, and inverses.	
7.A.4.1. Students are able to recognize one-step patterns using tables, graphs, and models and create one-step algebraic expressions representing the pattern.	
<ul style="list-style-type: none"> Identify arithmetic and geometric sequences. 	Student Edition: 66-67, 86 Teacher's Guide: 66A
<ul style="list-style-type: none"> Extend arithmetic and geometric sequences. 	Student Edition: 66-67, 86 Teacher's Guide: 66A
Seventh Grade Geometry Grade Standards, Supporting Skills, and Examples	
Indicator 1: Use deductive and inductive reasoning to recognize and apply properties of geometric figures.	
7.G.1.1. Students are able to identify, describe, and classify polygons having up to 10 sides.	
<ul style="list-style-type: none"> Relationships among triangles. 	Student Edition: 152-153, 154-155, 164-165, 173, 174, 175, 276-277, 278-279, 280-281, 304, 305 Teacher's Guide: 148, 149, 149A, 152A, 276A, 277A, 278A Quick Review Math Handbook Book 2: 330-333

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Relationships among quadrilaterals. 	<p>Student Edition: 146-147, 154-155, 164-165, 173-175, 284-285, 286-287, 288-289, 290-291, 306, 308, 309</p> <p>Teacher’s Guide: 148, 149, 282-283, 284A, 285A, 286A</p> <p>Quick Review Math Handbook Book 2: 334-338, 342</p>
<ul style="list-style-type: none"> Sketch two-dimensional figures. 	<p>Student Edition: 152-153, 280-281, 288-289, 300-301, 309, 313</p> <p>Teacher’s Guide: 152A, 280A, 300A</p> <p>Quick Review Math Handbook Book 2: 435 #22, #23, #25</p>
<p>7.G.1.2. Students are able to identify and describe elements of geometric figures.</p>	
<ul style="list-style-type: none"> Altitude 	<p>Student Edition: 154-155, 174, 296-297</p> <p>Teacher’s Guide: 149, 149B, 154A, 296A</p> <p>Quick Review Math Handbook Book 2: 359</p>
<ul style="list-style-type: none"> Midpoint 	<p>Student Edition: 154-155</p> <p>Teacher’s Guide: 149, 149B, 154A</p>
<ul style="list-style-type: none"> Bisector 	<p>Student Edition: 274-275 (can be used to illustrate this standard)</p> <p>Teacher’s Guide: 274A</p> <p>Quick Review Math Handbook Book 2: 432, 435 #21, 443 #17</p>
<ul style="list-style-type: none"> Radius 	<p>Student Edition: 294-295, 298-299, 310, 313</p> <p>Teacher’s Guide: 292, 293, 294A, 295A</p> <p>Quick Review Math Handbook Book 2: 372</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Diameter 	<p>Student Edition: 294-295, 298-299, 310</p> <p>Teacher's Guide: 294A, 295A, 298A</p> <p><i>Quick Review Math Handbook Book 2:</i> 372, 373</p>
<ul style="list-style-type: none"> Chord 	<p>Student Edition: 300-301 (This section can be used to explore this term.)</p>
<p>Indicator 2: Use properties of geometric figures to solve problems from a variety of perspectives.</p>	
<p>7.G.2.1. Students are able to demonstrate ways that shapes can be transformed.</p>	
<ul style="list-style-type: none"> Translation 	<p>Student Edition: 289, 291, 308</p> <p>Teacher's Guide: 283, 288A</p> <p><i>Quick Review Math Handbook Book 2:</i> 348, 349</p>
<ul style="list-style-type: none"> Rotation 	<p>Student Edition: 289, 291, 308</p> <p>Teacher's Guide: 283, 288A</p> <p><i>Quick Review Math Handbook Book 2:</i> 347, 349</p>
<ul style="list-style-type: none"> Reflection ✓ <i>Tessellation</i> ✓ Write and solve proportions that express the relationships between corresponding parts of similar quadrilaterals and triangles. 	<p>Student Edition: 289, 291, 305, 308</p> <p>Teacher's Guide: 283, 288A</p> <p><i>Quick Review Math Handbook Book 2:</i> 344-345, 408</p>

STANDARDS	PAGE REFERENCES
<p>Seventh Grade Measurement Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Apply measurement concepts in practical applications.</p>	
<p>7.M.1.1. Students are able to select, use, and convert appropriate units of measurement for a situation including capacity and angle measurement.</p>	
<ul style="list-style-type: none"> Measure angles $\leq 180^\circ$ to the nearest degree. 	<p>Student Edition: 274-275, 302</p> <p>Teacher's Guide: 274A</p> <p>Quick Review Math Handbook Book 2: 328, 329, 434 #4-#6, 435 #16-#19</p>
<ul style="list-style-type: none"> Measure length, capacity, and mass. 	<p>Student Edition: 140-145, 168-170</p> <p>Teacher's Guide: 142A</p> <p>Quick Review Math Handbook Book 2: 396, 397, 401, 402, 404, 405, 434</p>
<ul style="list-style-type: none"> Convert within the Metric system (kilo- thru milli-). 	<p>Student Edition: 140-145, 168-170</p> <p>Quick Review Math Handbook Book 2: 390, 392-393, 395, 398, 399, 403</p> <p>Math Skills Maintenance Workbook Course 2: 77</p>
<ul style="list-style-type: none"> Convert within the U.S. Customary system (weight, length, capacity). 	<p>Student Edition: 140-141, 142-143, 168-170</p> <p>Teacher's Guide: 142A</p> <p>Quick Review Math Handbook Book 2: 390, 392-393, 395, 398, 399, 403</p> <p>Math Skills Maintenance Workbook Course 2: 76</p>

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<p>7.M.1.2. Students, when given the formulas, are able to find circumference, perimeter, and area of circles, parallelograms, triangles, and trapezoids (whole number measurements).</p>	
<ul style="list-style-type: none"> Use appropriate unit of measure. 	<p>Student Edition: 140-141, 142-143, 169 #17, 199, 218 #17</p> <p>Teacher’s Guide: 272</p> <p>Quick Review Math Handbook Book 2: 328, 392-395, 396, 400, 406</p> <p>Math Skills Maintenance Workbook Course 2: 76</p>
<ul style="list-style-type: none"> Estimate the area of irregular shapes. 	<p>Student Edition: 154-155, 156-157, 160-161, 176</p> <p>Teacher’s Guide: 158, 159, 160A</p> <p>Quick Review Math Handbook Book 2: 356, 360, 361</p>
<p>Seventh 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>7.N.1.1. Students are able to represent numbers in a variety of forms by describing, ordering, and comparing integers, decimals, percents, and fractions.</p>	
<ul style="list-style-type: none"> Describe and compare numbers using ratios including appropriate notation, e.g., a:b, $\frac{a}{b}$, a to b. ✓ <i>Scientific notation, calculator notation.</i> ✓ <i>Include percents less than one and greater than 100.</i> ✓ <i>Identify, represent, compare, and order rational numbers and represent them on a number line.</i> 	<p>Student Edition: 16-17, 18-19, 20-21, 26-27, 28-29, 30-31, 38, 39, 42-46, 112-113, 131</p> <p>Teacher’s Guide: 15, 16, 19A, 24, 25, 26A</p> <p>Quick Review Math Handbook Book 2: 138, 139, 178, 292</p> <p>Math Skills Maintenance Workbook Course 2: 32, 33, 57, 58</p>

STANDARDS	PAGE REFERENCES
7.N.1.2. Students are able to find and use common multiples and factors of whole numbers.	
<ul style="list-style-type: none"> Least Common Multiple 	<p>Student Edition: 118-119, 120-121, 133</p> <p>Teacher's Guide: 93E, 118A</p> <p><i>Quick Review Math Handbook Book 2:</i> 87, 112</p> <p><i>Math Skills Maintenance Workbook Course 2:</i> 24</p>
<ul style="list-style-type: none"> Greatest Common Factor 	<p>Student Edition: 116-117, 118-119, 120-121, 132, 133</p> <p>Teacher's Guide: 93E, 118A, 119A</p> <p><i>Quick Review Math Handbook Book 2:</i> 83, 106</p> <p><i>Math Skills Maintenance Workbook Course 2:</i> 25, 26</p>
<ul style="list-style-type: none"> Divisibility rules (2, 3, 4, 6, 9, 10). 	<p>Student Edition: 116-117, 118-119</p> <p>Teacher's Guide: 114, 115, 116A, 118A</p> <p><i>Quick Review Math Handbook Book 2:</i> 84</p> <p><i>Math Skills Maintenance Workbook Course 2:</i> 27, 28</p>
Indicator 2: Apply number operations with real numbers and other number systems.	
7.N.2.1. Students are able to add, subtract, multiply, and divide integers and positive fractions.	<p>Student Edition: 96-97, 98-99, 100-101, 102-103, 108-109, 124, 125, 126, 129</p> <p>Teacher's Guide: 93G, 94, 95, 100A, 101A, 103A</p> <p><i>Quick Review Math Handbook Book 2:</i> 91, 92, 114-115, 120-121, 122</p> <p><i>Math Skills Maintenance Workbook Course 2:</i> 66-71</p>

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<p>Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p>	
<p>7.N.3.1. Students are able to use various strategies to solve one- and two-step problems involving positive fractions and integers.</p>	
<ul style="list-style-type: none"> Formulate rules to solve practical problems involving integers (problem solving). 	<p>Student Edition: 98-99, 100-101, 102-103, 108-109, 125, 126, 127, 129</p> <p>Teacher's Guide: 99A, 100A, 101A, 102A, 108A</p> <p>Quick Review Math Handbook Book 2: 91</p>
<ul style="list-style-type: none"> Use estimation strategies to make predictions and test the reasonableness of the answer. 	<p>Student Edition: 10-11, 12-13, 25, 26-27, 36, 37, 42, 146-147, 160-161, 162-163, 171 #13, 177 #11, 298-299</p> <p>Teacher's Guide: 10A, 13A, 27A, 146A, 161A, 162A, 298A, 299A</p> <p>Quick Review Math Handbook Book 2: 74, 128, 136, 137, 356, 394</p> <p>Math Skills Maintenance Workbook Course 2: 52-56</p>
<ul style="list-style-type: none"> Explain strategies and justify answers. 	<p>Student Edition: 10-11, 12-13, 26-27, 36, 37, 42, 146-147, 160-161, 162-163, 171 #13, 177 #11, 298-299</p> <p>Teacher's Guide: 10A, 13A, 25, 26A, 27A, 146A, 161A, 162A, 298A, 299A</p> <p>Quick Review Math Handbook Book 2: 74, 128, 136, 137, 356, 394</p> <p>Math Skills Maintenance Workbook Course 2: 52-56</p>
<p>Seventh 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>7.S.1.1. Students are able to find the mean, median, mode, and range of a set of data.</p>	<p>Student Edition: 132 #16 (definition of <i>mean</i>)</p> <p>Quick Review Math Handbook Book 2: 210, 211-212, 213, 214, 215, 237</p>

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<p>7.S.1.2. Students are able to display data, using frequency tables, line plots, stem-and-leaf plots, and make predictions from data displayed in a graph.</p>	<p>Student Edition: 8, 9, 28-29, 35, 41, 43, 200-201, 248-249, 265</p> <p>Teacher's Guide: 242, 243, 200A, 248A</p> <p>Quick Review Math Handbook Book 2: 198, 199-200, 201</p>
<p>Indicator 2: Apply the concepts of probability to predict events/outcomes and solve problems.</p>	<p>7.S.2.1. Students are able, given a sample space, to find the probability of a specific outcome.</p>
	<p>7.S.2.1. Students are able, given a sample space, to find the probability of a specific outcome.</p>
<ul style="list-style-type: none"> • Simple probability. 	<p>Student Edition: 50-51, 52-53, 54-55, 66-67, 70-71, 80, 81, 83, 86, 88</p> <p>Teacher's Guide: 49, 50A, 52A, 53A, 54A, 56, 57, 58A, 60A, 64, 65, 71A</p> <p>Quick Review Math Handbook Book 2: 224-226, 235</p>
<ul style="list-style-type: none"> • Express probability as a ratio, decimal, or percent. 	<p>Student Edition: 49, 52-53, 54-55, 60-61, 62-63, 82, 83, 84, 85</p> <p>Teacher's Guide: 54A</p> <p>Quick Review Math Handbook Book 2: 227</p>