



# MathScape

Seeing and Thinking Mathematically

Course 1

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STANDARDS	PAGE REFERENCES
<b>NUMBER AND OPERATIONS</b>	
<b>Multiply and divide fractions</b>	
<p><b>N.MR.06.01</b> Understand division of fractions as the inverse of multiplication, e.g., if <math>4/5 \div 2/3 = \square</math>, then <math>2/3 \times \square = 4/5</math>, so <math>\square = 4/5 \cdot 3/2 = 12/10</math>.</p>	<p><b>Student Edition:</b> 136-137, 140-141, 159, 161</p> <p><b>Teacher's Guide:</b> 934, 128, 137A, 140a</p> <p><i>Quick Review Math Handbook Book 1:</i> 123</p>
<p><b>N.FL.06.02</b> Given an applied situation involving dividing fractions, write a mathematical statement to represent the situation.</p>	<p><b>Student Edition:</b> 136-137, 140-141, 159, 161</p> <p><b>Teacher's Guide:</b> 136A, 140A</p>
<p><b>N.MR.06.03</b> Solve for the unknown in equations such as: <math>1/4 \div \square = 1 3/4 \div \square = 1/4</math> and <math>1/2 = 1 \cdot \square</math>.</p>	<p>The following could be used to help meet this standard.</p> <p><b>Student Edition:</b> 146 #17, 159 #15-#18, 160 #25-#29</p>
<p><b>N.FL.06.04</b> Multiply and divide any two fractions, including mixed numbers, fluently.</p>	<p><b>Student Edition:</b> 130-131, 132-133, 134-135, 136-137, 140-141, 156-157, 159, 161</p> <p><b>Teacher's Guide:</b> 128-129, 131A, 135A, 137A, 141A</p> <p><i>Quick Review Math Handbook Book 1:</i> 120-125</p>

STANDARDS	PAGE REFERENCES
<b>Represent rational numbers as fractions or decimals</b>	
<p><b>N.ME.06.05</b> Order rational numbers and place them on the number line.</p>	<p><b>Student Edition:</b> 112-113, 114-115, 148 #17, 149, 214-215, 216-217, 244-245, 258, 259, 266, 268 #27, 270</p> <p><b>Teacher's Guide:</b> 107, 112A, 216A</p> <p><b>Quick Review Math Handbook Book 1:</b> 88, 141</p>
<p><b>N.ME.06.06</b> Represent rational numbers as fractions or terminating decimals when possible, and translate between these representations.</p>	<p><b>Student Edition:</b> 212-213, 228-229, 232-233, 257, 264</p> <p><b>Teacher's Guide:</b> 209, 228A</p> <p><b>Quick Review Math Handbook Book 1:</b> 141, 154-160, 161</p>
<p><b>N.ME.06.07</b> Understand that a fraction or a negative fraction is a quotient of two integers, e.g., <math>-8/3</math> is -8 divided by 3.</p>	<p>See Glencoe's <i>MathScope—Making Mathematical Arguments</i> © 2005</p> <p><b>Student Edition:</b> 100-101, 126</p> <p><b>Teacher's Guide:</b> 101A</p>
<b>Add and subtract integers and rational numbers</b>	
<p><b>N.MR.06.08</b> Understand integer subtraction as the inverse of integer addition; add and subtract integers using integers from 10 to -10.</p>	<p><b>Student Edition:</b> 329, 334-335, 349, 350</p> <p><b>Teacher's Guide:</b> 329A</p> <p><b>Quick Review Math Handbook Book 1:</b> 89, 91, 93</p>
<p><b>N.FL.06.09</b> Add, subtract, multiply, and divide integers between -10 and 10; use number line and strip models for addition and subtraction.</p>	<p><b>Student Edition:</b> These page references address addition and subtraction. 246-247, 248-249, 250-251, 252-253, 271-274, 296-297</p> <p><b>Teacher's Guide:</b> 247A, 250A, 251A</p> <p><b>Quick Review Math Handbook Book 1:</b> 89-93</p> <p>See Glencoe's <i>MathScope—Making Mathematical Arguments</i> © 2005 for multiplication and division. 100-101, 126</p>

STANDARDS	PAGE REFERENCES
<p><b>N.FL.06.10</b> Add, subtract, multiply and divide positive rational numbers fluently.</p>	<p><b>Student Edition:</b> 118-119, 120-121, 122-123, 124-125, 126-127, 132-133, 134-135, 136-137, 138-139, 140-141, 151-161, 246-247, 248-249, 250-251, 252-253, 271-274, 296-297</p> <p><b>Teacher's Guide:</b> 118A, 119A, 120A, 122A, 124A, 128, 132A, 135A, 247A, 250A, 251A</p> <p><i>Quick Review Math Handbook Book 1:</i> 89-91, 96, 112-125, 132-139</p> <p><i>Math Skills Maintenance Workbook Course 1:</i> 12-35, 62-67, 74-79</p>
<b>Find equivalent ratios</b>	
<p><b>N.ME.06.11</b> Find equivalent ratios by scaling up or scaling down.</p>	<p><b>Student Edition:</b> 280-281, 282-283, 290-291, 300-301, 302-303, 304-305, 309, 310, 311, 314-317</p> <p><b>Teacher's Guide:</b> 278, 279, 281A, 288, 289, 298, 299, 301A</p> <p><i>Quick Review Math Handbook Book 1:</i> 368-371</p>
<b>Solve decimal, percentage and rational number problems</b>	
<p><b>N.FL.06.12</b> Calculate part of a number given the percentage and the number.</p>	<p><b>Student Edition:</b> 236-237, 266, 267</p> <p><b>Teacher's Guide:</b> 236A</p> <p><i>Quick Review Math Handbook Book 1:</i> 144-147, 153</p>
<p><b>N.FL.06.13</b> Solve word problems involving percentages in such contexts as sales taxes and tips, and involving positive rational numbers.</p>	<p><b>Student Edition:</b> 232-233, 234-235, 236-237, 238-239, 240-241, 265-267</p> <p><b>Teacher's Guide:</b> 230, 231, 240A</p> <p><i>Quick Review Math Handbook Book 1:</i> 141, 142, 145, 147-153</p>

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<p><b>N.FL.06.14</b> For applied situations, estimate the answers to calculations involving operations with rational numbers.</p>	<p><b>Student Edition:</b> 182-183, 234-235, 263 #26, 267, 294-295, 296-297</p> <p><b>Teacher's Guide:</b> 219</p> <p><i>Quick Review Math Handbook Book 1:</i> 117, 119, 130, 131, 133, 135-136, 141-143</p> <p><i>Math Skills Maintenance Workbook Course 1:</i> 36-51</p>
<p><b>N.FL.06.15</b> Solve applied problems that use the four operations with appropriate decimal numbers.</p>	<p><b>Student Edition:</b> 220-221, 222-223, 224-225, 226-227</p> <p><b>Teacher's Guide:</b> 218, 220A, 221A, 225A</p> <p><i>Quick Review Math Handbook Book 1:</i> 132-139</p> <p><i>Math Skills Maintenance Workbook Course 1:</i> 62, 65, 67</p>
<p><b>Use exponents</b></p>	
<p><b>N.ME.06.16</b> Understand and use integer exponents, excluding powers of negative numbers; express numbers in scientific notation.</p>	<p><b>Student Edition:</b> 72-73, 74-75, 78-79, 89 #12</p> <p><b>Teacher's Guide:</b> 75A</p> <p><i>Quick Review Math Handbook Book 1:</i> 84, 168-171, 173</p> <p><i>Math Skills Maintenance Workbook Course 1:</i> 56</p>
<p><b>Understand rational numbers and their location on the number line</b></p>	
<p><b>N.ME.06.17</b> Locate negative rational numbers (including integers) on the number line; know that numbers and their negatives add to 0, and are on opposite sides and at equal distance from 0 on a number line.</p>	<p><b>Student Edition:</b> 244-245, 250-251, 271, 273</p> <p><b>Teacher's Guide:</b> 242, 243, 246A, 250A, 251A</p> <p><i>Quick Review Math Handbook Book 1:</i> 88, 141</p>
<p><b>N.ME.06.18</b> Understand that rational numbers are quotients of integers (non-zero denominators), e.g., a rational number is either a fraction or a negative fraction.</p>	<p><b>Teacher's Guide:</b> 209</p> <p><i>Quick Review Math Handbook Book 1:</i> 42</p>

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<p><b>N.ME.06.19</b> Understand that 0 is an integer that is neither negative nor positive.</p>	<p><b>Student Edition:</b> 244-245, 270</p> <p><b>Teacher’s Guide:</b> 242</p> <p><i>Quick Review Math Handbook Book 1:</i> 88</p>
<p><b>N.ME.06.20</b> Know that the absolute value of a number is the value of the number, ignoring the sign, or is the distance of the number from 0.</p>	<p>See Glencoe’s <i>MathScape—Making Mathematical Arguments</i> © 2005</p> <p><b>Teacher’s Guide:</b> 109A</p> <p><i>Quick Review Math Handbook Book 1:</i> 88</p>
<p><b>ALGEBRA</b></p>	
<p><b>Calculate rates</b></p>	
<p><b>A.PA.06.01</b> Solve applied problems involving rates including speed, e.g., if a car is going 50 mph, how far will it go in <math>3\frac{1}{2}</math> hours?</p>	<p><b>Student Edition:</b> 345, 362</p> <p><b>Teacher’s Guide:</b> 345A</p> <p><i>Quick Review Math Handbook Book 1:</i> 274</p>
<p><b>Understand the coordinate plane</b></p>	
<p><b>A.RP.06.02</b> Plot ordered pairs of integers and use ordered pairs of integers to identify points in all four quadrants of the coordinate plane.</p>	<p><b>Student Edition:</b> 340-341, 342-343, 348-349, 360-364</p> <p><b>Teacher’s Guide:</b> 340A, 342A</p> <p><i>Quick Review Math Handbook Book 1:</i> 282-284, 289</p>
<p><b>Use variables, write expressions and equations, and combine like terms</b></p>	
<p><b>A.FO.06.03</b> Use letters, with units, to represent quantities in a variety of contexts, e.g., y lbs., k minutes, x cookies.</p>	<p>See Glencoe’s <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 184</p>
<p><b>A.FO.06.04</b> Distinguish between an algebraic expression and an equation.</p>	<p><b>Student Edition:</b> 332-333, 336-337</p> <p><i>Quick Review Math Handbook Book 1:</i> 254, 260</p>

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<p><b>A.FO.06.05</b> Use standard conventions for writing algebraic expressions, e.g., <math>2x + 1</math> means “two times <math>x</math>, plus 1” and <math>2(x + 1)</math> means “two times the quantity <math>(x + 1)</math>.”</p>	<p><b>Student Edition:</b> 332-333, 336-337</p> <p><b>Teacher’s Guide:</b> 331, 332A</p> <p><i>Quick Review Math Handbook Book 1:</i> 254-259</p>
<p><b>A.FO.06.06</b> Represent information given in words using algebraic expressions and equations.</p>	<p><b>Student Edition:</b> 332-333, 336-337</p> <p><b>Teacher’s Guide:</b> 332A</p> <p><i>Quick Review Math Handbook Book 1:</i> 259, 260, 261</p>
<p><b>A.FO.06.07</b> Simplify expressions of the first degree by combining like terms, and evaluate using specific values.</p>	<p><b>Student Edition:</b> 334-335</p> <p><b>Teacher’s Guide:</b> 334A</p> <p><i>Quick Review Math Handbook Book 1:</i> 262-269</p>
<p><b>Represent linear functions using tables, equations, and graphs</b></p>	
<p><b>A.RP.06.08</b> Understand that relationships between quantities can be suggested by graphs and tables.</p>	<p><b>Student Edition:</b> 342-343, 344-345, 361, 362</p> <p><b>Teacher’s Guide:</b> 346</p>
<p><b>A.PA.06.09</b> Graph and write equations for linear functions of the form <math>y = mx</math>, and solve related problems, e.g., given <math>n</math> chairs, the “leg function” is <math>f(n) = 4n</math>; if you have 5 chairs, how many legs?; if you have 12 legs, how many chairs?</p>	<p>See Glencoe’s <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 204-205, 208-209, 220, 221</p> <p><b>Teacher’s Guide:</b> 202</p>
<p><b>A.RP.06.10</b> Represent simple relationships between quantities, using verbal descriptions, formulas or equations, tables, and graphs, e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches.</p>	<p><b>Student Edition:</b> 326-327, 328-329, 344-345, 350-351, 355, 356, 362, 364</p> <p><b>Teacher’s Guide:</b> 344A, 350A, 351A</p> <p><i>Quick Review Math Handbook Book 1:</i> 271, 272, 357, 358</p>

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<b>Solve equations</b>	
<p><b>A.FO.06.11</b> Relate simple linear equations with integer coefficients to particular contexts, and solve, e.g., <math>3x = 8</math> or <math>x + 5 = 10</math>.</p>	<p>See Glencoe's <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 204-205, 220</p> <p><b>Teacher's Guide:</b> 204A</p>
<p><b>A.FO.06.12</b> Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same solution.</p>	<p>See Glencoe's <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 208-209, 222</p> <p><b>Teacher's Guide:</b> 208A</p>
<p><b>A.FO.06.13</b> Understand that multiplying or dividing both sides of an equation by the same non-zero number creates a new equation that has the same solutions.</p>	<p>See Glencoe's <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 208-209, 222</p>
<p><b>A.FO.06.14</b> Solve equations of the form <math>ax + b = c</math>, e.g., <math>3x + 8 = 15</math> by hand for positive integer coefficients less than 20, using calculators otherwise, and interpret the results.</p>	<p>See Glencoe's <i>MathScape—The Language of Algebra</i> © 2005</p> <p><b>Student Edition:</b> 204-205, 206-207, 220, 221</p>
<b>MEASUREMENT</b>	
<b>Convert within measurement systems</b>	
<p><b>M.UN.06.01</b> Convert between basic units of measurement within a single measurement system, e.g., square inches to square feet.</p>	<p><b>Student Edition:</b> 264, 292-293, 311, 313, 314</p> <p><b>Teacher's Guide:</b> 292A</p> <p><i>Quick Review Math Handbook Book 1:</i> 357, 358, 359, 361, 363, 364-365, 367</p>
<b>Find volume and surface area</b>	
<p><b>M.PS.06.02</b> Draw patterns (of faces) for a cube and rectangular prism that, when cut, will cover the solid exactly (nets).</p>	<p><b>Student Edition:</b> 142 #9, #10, 186-187, 188-189, 202, 203</p> <p><b>Teacher's Guide:</b> 189A</p> <p><i>Quick Review Math Handbook Book 1:</i> 311</p>

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<p><b>M.TE.06.03</b> Compute the volume and surface area of cubes and rectangular prisms given the lengths of their sides using formulas.</p>	<p><b>Student Edition:</b> 284-285, 294-295, 304-305, 306-307</p> <p><b>Teacher's Guide:</b> 285A, 288, 289, 294A, 295A, 299, 305A</p> <p><b>Quick Review Math Handbook Book 1:</b> 330-333, 334-339</p>
<b>GEOMETRY</b>	
<b>Understand and apply basic properties</b>	
<p><b>G.GS.06.01</b> Understand and apply basic properties of lines, angles, and triangles, including:</p> <ul style="list-style-type: none"> <li>—triangle inequality</li> <li>—relationships of vertical angles, complementary angles, supplementary angles</li> <li>—congruence of corresponding and alternate interior angles when parallel lines are cut by a transversal, and that such congruencies imply parallel lines</li> <li>—locate interior and exterior angles of any triangle, and use the property that an exterior angle of a triangle is equal to the sum of the remote (opposite) interior angles</li> <li>—know that the sum of the exterior angles of a convex polygon is <math>360^\circ</math>.</li> </ul>	<p><b>Student Edition:</b> 176-177, 178-179, 180-181, 190-191, 192-193, 198-201</p> <p><b>Teacher's Guide:</b> 174, 175, 176A, 178A, 180A</p> <p><b>Quick Review Math Handbook Book 1:</b> 294, 296-303, 304, 305</p>
<b>Understand the concept of congruence and basic transformations</b>	
<p><b>G.GS.06.02</b> Understand that for polygons, congruence means corresponding sides and angles have equal measures.</p>	<p><b>Student Edition:</b> 186-187, 188-189</p> <p><b>Quick Review Math Handbook Book 1:</b> 301</p>
<p><b>G.TR.06.03</b> Understand the basic rigid motions in the plane (reflections, rotations, translations), relate these to congruence, and apply them to solve problems.</p>	<p><b>Student Edition:</b> 168-169, 176-177, 195, 198</p> <p><b>Quick Review Math Handbook Book 1:</b> 314-315, 317-319</p>
<p><b>G.TR.06.04</b> Understand and use simple compositions of basic rigid transformations, e.g., a translation followed by a reflection.</p>	<p><b>Student Edition:</b> 176-177, 198</p> <p><b>Teacher's Guide:</b> 177A</p>

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<b>Construct geometric shapes</b>	
<p><b>G.SR.06.05</b> Use paper folding to perform basic geometric constructions of perpendicular lines, midpoints of line segments and angle bisectors; justify informally.</p>	<p><b>Student Edition:</b> 176-177, 178-179</p> <p><b>Teacher’s Guide:</b> 174, 175, 177A, 178A</p>
<b>DATA AND PROBABILITY</b>	
<b>Understand the concept of probability and solve problems</b>	
<p><b>D.PR.06.01</b> Express probabilities as fractions, decimals or percentages between 0 and 1; know that 0 probability means an event will not occur and that probability 1 means an event will occur.</p>	<p><b>Student Edition:</b> 30-31, 32-33, 45, 46</p> <p><b>Teacher’s Guide:</b> 30A, 32A</p> <p><i>Quick Review Math Handbook Book 1:</i> 218-222, 225, 229</p>
<p><b>D.PR.06.02</b> Compute probabilities of events from simple experiments with equally likely outcomes, e.g., tossing dice, flipping coins, spinning spinners, by listing all possibilities and finding the fraction that meets given conditions.</p>	<p><b>Student Edition:</b> 30-31, 32-33, 45-47</p> <p><b>Teacher’s Guide:</b> 30A, 32A</p> <p><i>Quick Review Math Handbook Book 1:</i> 218-222, 229</p>