

Grade 6 STANDARDS	PAGE REFERENCES
<b>Ratios &amp; Proportional Relationships</b>	
<b>GRADE 6 OVERVIEW</b> Understand ratio concepts and use ratio reasoning to solve problems.	

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to*



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*length  $\frac{3}{4}$  mi and area  $\frac{1}{2}$  square mi? Compute fluently with multi-digit numbers and find common factors and multiples.*

2. Fluently divide multi-digit numbers using the

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	78.5, 79.2, 80.1, 81.2, 85.2, 86.3, 97.1, 98.2, 99.4, 102.1, 103.1, 103.4, 104.2, 104.5, 105.5, 106.2, 106.6, 107.3, 114.1, 115.2, 116.3, 117.3, 118.3, 119.1, 120.1  <b>TG:</b> pages 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113
<b>7. Understand ordering and absolute value of rational numbers.</b>	
<ul style="list-style-type: none"> <li>ù Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret <math>-3 &gt; -7</math> as a statement that <math>-3</math> is located to the right of <math>-7</math> on a number line oriented from left to right.</i></li> </ul>	<b>PB2:</b> (Lesson.Exercise) 79.1, 80.5, 81.1, 82.2, 83.2, 84.3, 85.3, 86.4, 87.3, 88.2, 89.2, 90.5, 91.4, 92.2, 93.3, 94.4, 95.2, 96.5, 118.4  <b>TG:</b> pages 95, 96, 97
<ul style="list-style-type: none"> <li>ù Write, interpret, and explain statements of order for rational numbers in real-world</li> </ul>	



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79.1, 69.2, 79.4, 79.5, 80.1, 80.2, 80.4, 80.5, 81.1,  
81.2, 81.3, 81.4, 82.2, 82.4, 82.5, 83.2, 83.3, 83.5,  
84.3, 84.4, 85.3, 85.5, 86.1, 86.3, 86.4, 86.6, 87.2,  
87.3, 87.5, 88.2, 88.3, 88.4, 88.5, 88.6, 89.2, 89.3,  
89.4, 89.5, 90.1, 90.3, 90.4, 90.5, 91.1, 91.3, 91.4,  
91.5, 92.2, 92.3, 92.4, 92.5, 93.2, 93.3, 93.4, 93.5,

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36.2, 36.4, 36.5, 37.1, 37.2, 37.4, 38.2, 38.3, 38.5, 39.1, 39.2, 39.5, 40.1, 40.3, 40.5, 41.1, 41.3, 41.4, 42.1, 42.2, 42.3, 42.4, 42.5, 43.1, 43.2, 44.1, 44.2, 45.1, 45.3, 45.4, 45.5, 46.1, 46.3, 46.4, 46.5, 47.1, 47.2, 47.3, 47.4, 48.2, 48.3, 48.4, 49.1, 49.4, 49.5, 50.2, 50.3, 50.5, 51.2, 51.3, 51.6, 52.1, 52.2, 52.5, 53.1, 53.2, 53.4, 53.5, 54.1, 54.3, 54.4, 54.5, 54.7, 55.1, 55.3, 55.4, 55.5, 56.1, 56.2, 56.3, 56.5, 57.1, 57.2, 57.3, 57.5, 57.6, 58.2, 58.4, 59.1, 59.5, 60.1, 60.5

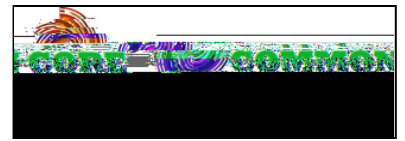
**PB2:** (Lesson.Exercise) 61.1, 61.2, 61.3, 61.4, 61.5, 62.1, 62.2, 62.3, 62.4, 62.5, 63.1, 63.2, 63.3, 63.4, 63.5, 64.1, 64.2, 64.3, 64.4, 65.1, 65.2, 65.3, 65.4, 65.5, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 67.2, 67.3, 67.4, 67.5, 67.6, 68.1, 68.2, 68.3, 68.4, 68.5, 69.1, 69.2, 69.3, 69.4, 69.5, 70.1, 70.2, 70.3, 70.4, 71.1, 71.3, 71.4, 72.1, 72.2, 72.3, 72.4, 72.5, 72.6, 73.1, 73.2, 73.3, 73.4, 73.5, 74.1, 74.2, 74.3, 74.4, 74.5, 75.1, 75.2, 75.3, 75.5, 76.1, 76.2, 76.3, 76.4, 77.1, 77.2, 77.3, 77.4, 77.5, 78.1, 78.2, 78.4, 78.5, 78.6, 79.1, 79.2, 79.4, 79.5, 80.1, 80.2, 80.4, 80.5, 81.1, 81.2, 81.3, 81.4, 82.2, 82.4, 82.5, 83.2, 83.3, 83.5, 84.3, 84.4, 85.3, 85.5, 86.1, 86.3, 86.4, 86.6, 87.2, 87.3, 87.5, 88.2, 88.3, 88.4, 88.5, 88.6, 89.2, 89.3, 89.4, 89.5, 90.1, 90.3, 90.4, 90.5, 91.1, 91.3, 91.4, 91.5, 92.2, 92.3, 92.4, 92.5, 93.2, 93.3, 93.4, 93.5, 94.1, 94.3, 94.4, 95.1, 95.2, 95.3, 95.4, 96.1, 96.3, 96.4, 96.5, 97.1, 97.2, 97.4, 97.5, 98.2, 98.3, 98.4, 98.5, 99.1, 99.2, 99.3, 99.4, 100.2, 100.3, 100.4, 100.5, 101.1, 101.2, 101.3, 101.4, 101.5, 102.2, 102.3, 102.4, 102.5, 103.1, 103.2, 103.5, 104.1, 104.2, 104.4, 104.6, 105.1, 105.4, 105.5, 106.1, 106.2, 106.3, 107.1, 107.2, 107.5, 108.1, 108.3, 108.5, 10 -0.011.144  $\pi$ (108.5, 10 -0.011.144  $\pi$ (108.5, 1)011.144  $\pi$ (1

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	<p>42.1, 42.2, 42.3, 42.4, 42.5, 43.1, 43.2, 44.1, 44.2, 45.1, 45.3, 45.4, 45.5, 46.1, 46.3, 46.4, 46.5, 47.1, 47.2, 47.3, 47.4, 48.2, 48.3, 48.4, 49.1, 49.4, 49.5, 50.2, 50.3, 50.5, 51.2, 51.3, 51.6, 52.1, 52.2, 52.5, 53.1, 53.2, 53.4, 53.5, 54.1, 54.3, 54.4, 54.5, 54.7, 55.1, 55.3, 55.4, 55.5, 56.1, 56.2, 56.3, 56.5, 57.1, 57.2, 57.3, 57.5, 57.6, 58.2, 58.4, 59.1, 59.5, 60.1, 60.5</p> <p><b>PB2:</b> (Lesson.Exercise) 61.1, 61.2, 61.3, 61.4, 61.5, 62.1, 62.2, 62.3, 62.4, 62.5, 63.1, 63.2, 63.3, 63.4, 63.5, 64.1, 64.2, 64.3, 64.4, 65.1, 65.2, 65.3, 65.4, 65.5, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 67.2, 67.3, 67.4, 67.5, 67.6, 68.1, 68.2, 68.3, 68.4, 68.5, 69.1, 69.2, 69.3, 69.4, 69.5, 70.1, 70.2, 70.3, 70.4, 71.1, 71.3, 71.4, 72.1, 72.2, 72.3, 72.4, 72.5, 72.6, 73.1, 73.2, 73.3, 73.4, 73.5, 74.1, 74.2, 74.3, 74.4, 74.5, 75.1, 75.2, 75.3, 75.5, 76.1, 76.2, 76.3, 76.4, 77.1, 77.2, 77.3, 77.4, 77.5, 78.1, 78.2, 78.4, 78.5, 78.6, 79.1, 69.2, 79.4, 79.5, 80.1, 80.2, 80.4, 80.5, 81.1, 81.2, 81.3, 81.4, 82.2, 82.4, 82.5, 83.2, 83.3, 83.5, 84.3, 84.4, 85.3, 85.5, 86.1, 86.3, 86.4, 86.6, 87.2, 87.3, 87.5, 88.2, 88.3, 88.4, 88.5, 88.6, 89.2, 89.3, 89.4, 89.5, 90.1, 90.3, 90.4, 90.5, 91.1, 91.3, 91.4, 91.5, 92.2, 92.3, 92.4, 92.5, 93.2, 93.3, 93.4, 93.5, 94.1, 94.3, 94.4, 95.1, 95.2, 95.3, 95.4, 96.1, 96.3, 96.4, 96.5, 97.1, 97.2, 97.4, 97.5, 98.2, 98.3, 98.4, 98.5, 99.1, 99.2, 99.3, 99.4, 100.2, 100.3, 100.4, 100.5, 101.1, 101.2, 101.3, 101.4, 101.5, 102.2, 102.3, 102.4, 102.5, 103.1, 103.2, 103.5, 104.1, 104.2, 104.4, 104.6, 105.1, 105.4, 105.5, 106.1, 106.2, 106.3, 107.1, 107.2, 107.5, 108.1, 108.3, 108.5, 109.2, 109.3, 109.4, 110.2, 110.4, 110.5, 110.6, 111.1, 111.4, 111.5, 111.6, 112.1, 112.2, 112.3, 113.2, 113.3, 113.4, 114.2, 114.4, 114.5, 115.1, 115.5, 116.1, 116.5, 117.2, 117.3, 117.4, 118.2, 118.3, 118.4, 119.3, 120.1, 120.2, 120.3</p> <p><b>TG:</b> pages 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 132, 133, 134, 135, 136, 137, 138, 139</p>
<p><b>8.</b> Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p><b>9.</b> Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in</p>	<p><b>PB2:</b> (Lesson.Exercise) 79.1, 80.5, 81.1, 82.2, 83.2, 84.3, 85.5, 86.4, 87.3, 88.2, 89.2, 90.5, 91.4, 92.2, 93.3, 94.4, 95.2, 96.5, 114.1, 115.2, 116.3</p> <p><b>TG:</b> pages 95, 96, 97, 113</p>









rate) in tables, graphs, equations, diagrams,

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<p>Apply properties of operations as strategies to add and subtract rational numbers.</p>	<p><b>TG:</b> pages 113, 114</p> <p><b>PB 1:</b> (Lesson.Exercise) 19.1, 19.2, 20.1, 21.1, 22.1, 23.1, 30.2, 30.3, 31.2, 32.1, 33.4, 34.5, 35.2, 35.4, 36.3, 36.4, 37.3, 38.1, 39.6, 42.3, 43.4, 44.5, 58.3, 59.4, 60.1, 60.4</p> <p><b>PB2:</b> (Lesson.Exercise) 61.1, 62.3, 63.1, 64.3, 65.2, 66.5, 67.1, 67.6, 68.2, 68.5, 69.5, 73.2</p>

2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. (multiplication and division of rational numbers)

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<p>1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p>	<p><b>PB 1:</b> (Lesson.Exercise) 19.1, 19.2, 20.1, 21.1, 22.2, 23.1, 24.1, 24.2, 25.1, 25.6, 28.5, 29.2, 30.3, 30.5, 31.5, 32.3, 33.1, 34.3, 35.1, 36.4, 42.1, 43.2, 44.1, 45.3, 46.4, 47.1, 48.2, 49.5, 50.5, 59.4, 60.1</p> <p><b>PB2:</b> (Lesson.Exercise) 61.1, 62.2, 63.1, 64.3, 65.2, 66.5, 67.6, 68.5, 69.5</p>
<p>2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. <i>For example, <math>a + 0.05a = 1.05a</math> means that “increase by 5%” is the same as “multiply by 1.05.”</i></p>	<p><b>PB 1:</b> (Lesson.Exercise) 16.3, 17.4, 18.1, 18.4, 19.2, 19.3, 20.5, 21.5, 31.3, 32.4, 32.6, 33.2, 34.4, 35.5, 46.2, 49.1, 50.1, 51.2, 51.5, 57.4, 58.1, 59.3, 60.3</p> <p><b>PB2:</b> (Lesson.Exercise) 61.5, 62.1, 62.5, 63.1, 63.2, 63.4, 64.1, 64.3, 64.4, 65.2, 65.4, 66.1, 66.5, 67.1, 67.6, 68.5, 69.5, 91.2, 92.1, 93.1, 94.2, 95.5, 96.2, 97.3, 98.1, 99.5, 104.1, 104.3, 105.2, 107.4, 108.3, 108.4, 109.4, 110.2, 111.5, 112.2, 113.3, 119.3</p>
<p>3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar <math>9\frac{3}{4}</math> inches long in the center of a door that is <math>27\frac{1}{2}</math> inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i></p>	<p><b>PB 1:</b> (Lesson.Exercise) 1.2, 1.6, 2.5, 3.1, 3.3, 3.5, 4.2, 4.3, 4.4, 4.6, 5.2, 5.5, 5.6, 6.3, 6.4, 7.2, 7.3, 7.5, 8.1, 8.2, 9.2, 9.5, 10.2, 10.5, 11.4, 11.5, 12.3, 12.6, 13.4, 13.6, 14.3, 14.5, 15.3, 15.5, 16.2, 16.3, 16.4, 16.5, 16.6, 17.2, 17.4, 18.1, 18.2, 18.3, 18.4, 19.2, 19.3, 19.4, 19.5, 20.1, 20.2, 20.4, 20.5, 21.1, 21.3, 21.4, 21.5, 22.1, 22.2, 22.4, 23.1, 23.3, 23.4, 23.5, 24.1, 24.2, 24.3, 24.4, 24.5, 25.1, 25.2, 25.3, 25.4, 25.5, 25.6, 26.1, 26.2, 26.3, 26.4, 26.5, 27.1, 27.2, 27.3, 27.4, 27.5, 28.2, 28.3, 28.4, 28.5, 28.6, 29.1, 29.2, 29.3, 29.5, 29.6, 30.2, 30.3, 30.5, 30.6, 31.2, 31.3, 31.4, 31.5, 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 33.1, 33.2, 33.3, 33.4, 33.5, 34.1, 34.2, 34.3, 34.5, 34.6, 35.1, 35.2, 35.3, 35.4, 35.5, 36.1, 36.2, 36.3, 36.4, 36.5, 37.1, 37.2, 37.3, 37.4, 37.5, 38.1, 38.2, 38.3, 38.4, 38.5, 39.1, 39.2, 39.3, 39.4, 39.5, 39.6, 40.1, 40.2, 40.3, 40.5, 41.1, 41.2, 41.3, 41.4, 42.1, 42.2, 42.3, 42.4, 42.5, 43.2, 43.3, 43.4, 44.5, 44.1, 44.2, 44.4, 44.5, 45.1, 45.3, 45.4, 45.5, 45.6, 46.1, 46.3, 46.4, 46.5, 47.1, 47.2, 47.3, 47.4, 48.1, 48.2, 48.3, 48.4, 48.5, 48.6, 49.1, 49.2, 49.3, 49.4, 49.5, 50.1, 50.2, 50.3, 50.4, 50.5, 51.1, 51.2, 51.3, 51.4, 51.6, 52.1, 52.2, 52.3, 52.4, 52.5, 52.6, 53.1, 53.2, 53.3, 53.4, 53.6, 54.1, 54.2, 54.3, 54.4, 54.5, 54.7, 55.2, 55.3, 55.4, 55.5, 56.2, 56.3, 56.4, 56.5, 57.2, 57.3, 57.4, 57.5, 57.6, 58.1, 58.3, 58.4, 59.1, 59.3, 59.4, 59.5, 60.1, 60.3, 60.4, 60.5</p>

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80.5, 81.1, 81.2, 81.3, 81.4, 81.5, 82.1, 82.2, 82.3, 82.4, 82.5, 83.1, 83.2, 83.3, 83.4, 83.5, 84.2, 84.3, 84.4, 85.1, 85.2, 85.3, 85.4, 85.5, 86.1, 86.2, 86.3, 86.4, 86.5, 86.6, 87.1, 87.2, 87.3, 87.4, 87.5, 88.1, 88.2, 88.3, 88.4, 88.5, 88.6, 89.1, 89.2, 89.3, 89.4, 89.5, 90.1, 90.2, 90.3, 90.4, 90.5, 91.1, 91.2, 91.3, 91.4, 91.5, 92.1, 92.2, 92.3, 92.4, 92.5, 93.1, 93.2, 93.3, 93.4, 93.5, 94.1, 94.2, 94.3, 94.4, 95.1, 95.2, 95.3, 95.4, 95.5, 96.1, 96.2, 96.3, 96.4, 96.5, 97.1, 97.2, 97.3, 97.4, 97.5, 98.1, 98.2, 98.3, 98.4, 98.5, 99.1, 99.2, 99.3, 99.4, 99.5, 100.1, 100.2, 100.3, 100.4, 100.5, 101.1, 101.2, 101.3, 101.4, 101.5, 102.2, 102.3, 102.4, 102.5, 103.1, 103.2, 103.3, 103.5, 104.1, 104.2, 104.3, 104.4, 104.5, 104.6, 105.1, 105.2, 105.3, 105.4, 105.5, 105.6, 106.1, 106.2, 106.3, 106.4, 106.5, 107.1, 107.2, 107.3, 107.4, 107.5, 108.1, 108.2, 108.3, 108.4, 108.5, 109.1, 109.2, 109.3, 109.4, 109.5, 110.1, 110.2, 110.3, 110.4, 110.5, 110.6, 111.1, 111.2, 111.3, 111.4, 111.5, 111.6, 112.1, 112.2, 112.3, 112.4, 112.5, 113.1, 113.2, 113.3, 113.4, 113.5, 114.1, 114.2, 114.3, 114.4, 114.5, 115.1, 115.3, 115.4, 115.5, 116.1, 116.2, 116.4, 116.5, 117.2, 117.4, 118.2, 118.4, 119.2, 119.3, 120.2, 120.3



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1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

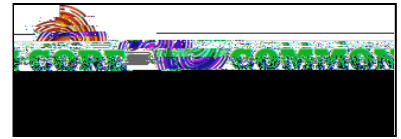
**PB2:** (Lesson.Exercise) 102.2, 103.5

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*the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*





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<b>The Number System</b>	
<b>GRADE 8 OVERVIEW</b> Know that there are numbers that are not rational, and approximate them by rational numbers.	

1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats

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<p>exponents to generate equivalent numerical expressions. For example, <math>3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27</math>.</p>	<p>51.5, 52.3, 53.5, 54.6, 57.4, 58.1, 59.3, 60.3</p> <p><b>PB2:</b> (Lesson.Exercise) 61.5, 62.5, 63.2, 65.3, 69.1, 70.3, 77.2, 78.6, 104.1, 105.4, 106.3, 107.5, 108.3, 109.4, 110.2, 111.5, 112.2, 113.3, 114.2, 115.5, 116.5, 119.3</p> <p><b>TG:</b> pages 131, 132, 133, 134, 135, 136</p>
<p>2. Use square root and cube root symbols to represent solutions to equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, where <math>p</math> is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that <math>\sqrt{2}</math> is irrational.</p>	<p><b>PB2:</b> (Lesson.Exercise) 78.3, 79.3, 80.3, 82.1, 82.3, 83.1, 83.4, 84.2, 88.4, 88.5, 89.4, 90.1, 91.3, 92.4, 93.5, 94.1, 95.1, 96.1, 97.2, 98.3, 99.1, 100.3, 101.3, 102.5,, 120.2</p> <p><b>TG:</b> pages 127, 128, 129, 130</p>

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ù Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>TG:</b> pages 80, 81, 82, 83, 84, 85, 86, 87, 88, 89 <b>PB 1:</b> (Lesson.Exercise) 30.3, 31.5, 32.3, 33.1, 34.3, 34.6, 35.2, 36.4, 37.1, 38.3, 39.2, 41.3, 42.1, 43.2, 44.1, 45.3, 46.4, 47.1, 48.2, 49.5, 50.5, 51.3, 52.2, 53.6, 54.4, 55.4, 56.2, 57.5, 59.5, 60.1 <b>PB2:</b> (Lesson.Exercise) 62.1, 62.4, 63.4, 63.5, 64.3, 64.4, 65.1, 65.2, 65.4, 65.5, 66.1, 66.3, 66.4, 66.5, 67.3, 67.4, 67.5, 67.6, 68.1, 68.3, 68.4, 68.5, 69.2, 69.3, 69.4, 69.5, 70.1, 70.2, 70.4, 71.1, 711.3, 71.4, 72.2, 72.4, 72.6, 73.1, 73.4, 73.5, 74.1, 74.3, 74.5, 75.2, 75.3, 75.5, 76.1, 76.2, 76.3, 76.4, 77.1, 77.3, 77.4, 77.5, 78.1, 78.2, 78.5, 79.2, 79.4, 79.5, 80.4, 80.5, 81.3, 82.4, 83.5, 84.3, 84.4, 85.4, 85.5, 86.3, 86.4, 87.5, 88.3, 93.3, 94.4, 95.2, 96.5, 99.2, 100.5, 101.5, 102.3, 103.1, 103.2, 104.2, 104.6, 105.1, 106.1, 107.2, 108.1, 109.2, 109.3, 110.4, 110.5, 110.6, 111.1, 111.4, 111.6, 112.1, 112.3, 113.2, 114.4, 119.3 <b>TG:</b> pages 80, 81, 82, 83, 84, 85, 86, 87, 88, 89
<b>8. Analyze and solve pairs of simultaneous linear equations.</b>	
ù Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	<b>PB2:</b> (Lesson.Exercise) 104.2, 105.5, 106.6, 107.3, 108.5
ù Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, <math>3x + 2y = 5</math> and <math>3x + 2y = 6</math> have no solution because <math>3x + 2y</math> cannot simultaneously be 5 and 6.</i>	<b>PB2:</b> (Lesson.Exercise) 65.1, 66.4, 73.1, 74.1, 75.3, 76.2, 77.1, 78.2, 79.4, 80.4, 81.3, 82.4, 83.5, 84.4, 85.3, 109.2, 110.4, 111.1, 112.3 <b>TG:</b> pages 136, 137, 138, 139
ù Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i>	<b>PB2:</b> (Lesson.Exercise) 106.6, 107.3, 108.5, 114.1, 115.2, 116.3, 117.3, 118.3

## Functions

### GRADE 8 OVERVIEW

- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

**PB 1:** (Lesson.Exercise) 32.2, 33.5, 34.1, 35.1, 36.5, 37.2, 38.2, 39.1, 40.3, 41.4, 42.2, 43.3, 44.2, 45.1, 46.1, 4.1, 4Es/MID 24 >464, 38.2, 39.1, 40.3, 4153, 42.22 35.88 ref/P

Grade 8 STANDARDS	PAGE REFERENCES
	<b>TG:</b> pages 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113
<p><b>2.</b> Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i></p>	
<p><b>3.</b> Interpret the equation <math>y = mx + b</math> as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function <math>A = s^2</math> giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i></p>	<p><b>PB 1:</b> (Lesson.Exercise) 37.2, 38.2, 55.1, 56.1, 57.1, 58.2, 59.2, 60.2</p> <p><b>PB2:</b> (Lesson.Exercise) 64.4, 65.5, 66.1, 67.2, 68.4, 69.4, 70.4, 74.2, 75.1, 76.1, 77.5, 78.5, 79.2, 80.1, 81.2, 85.2, 86.3, 97.1, 98.2, 99.4, 103.1, 104.2, 105.5, 106.2, 106.6, 107.3, 108.5, 120.1</p>
<p><b>4.</b> Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p>	<p><b>PB 1:</b> (Lesson.Exercise) 39.1, 40.1, 41.4, 42.2, 43.3, 44.2, 45.1, 46.1, 47.2, 48.3, 52.1, 53.1, 54.7, 55.1, 56.1, 57.1, 58.2, 59.2, 60.2</p> <p><b>PB2:</b> (Lesson.Exercise) 61.4, 66.1, 67.2, 68.4, 69.4, 70.4, 74.2, 75.1, 76.1, 77.5, 78.5, 120.1</p> <p><b>TG:</b> pages 103, 104, 105, 106</p>
<p><b>5.</b> Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p>	<p><b>PB 1:</b> (Lesson.Exercise) 35.1, 36.5, 37.2, 38.2, 55.1, 56.1, 57.1, 58.2, 59.2, 60.2</p> <p><b>PB2:</b> (Lesson.Exercise) 66.1, 67.2, 68.4, 69.4, 70.4, 74.2, 75.1, 76.1, 77.5, 78.5, 79.2, 80.1, 81.2, 85.2, 86.3, 97.1, 98.2, 103.1, 104.2, 105.5, 106.2, 106.6, 107.3, 108.5, 120.1</p> <p><b>TG:</b> pages 105, 106, 107, 108, 109, 110, 111, 112</p>

## Geometry

### GRADE 8 OVERVIEW

- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

**1.** Verify experimentally the properties of rotations, reflections, and translations:

- ù a. Lines are taken to lines, and line segments to line segments of the same length.
- ù b. Angles are taken to angles of the same measure.

**PB2:** (Lesson.Exercise) 71.2, 72.3, 73.3, 74.4, 75.4, 76.5, 85.4, 86.5, 87.4, 88.1,

**PB1, PB2:** Presentation Book 1 or 2      **TG:** Teacher's Guide





