

**COVINGTON INDEPENDENT PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM - GIFTED/TALENTED**

**Number and Computation Strand – Grade7**

<b>Big Ideas</b>	<b>End-Of-Year Test Question</b>	<b>Resources/ Investigations</b>	<b>On-line Resources/Other</b>	<b>Notes/Comments</b>
<p><b>NC 7.1-G</b> Extend number sense and representations to include integers, irrational numbers, percents greater than 100 and less than 1, exponential notation, calculator notation, scientific notation. M-NC-7-1</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-1.1.1</li> <li><input type="checkbox"/> MA-M-1.1.2</li> <li><input type="checkbox"/> MA-M-1.1.4</li> <li><input type="checkbox"/> MA-M-1.1.6</li> </ul>	<p><b>Connected Math</b> <i>Data Around Us</i> TE Page 76; questions 4 or 5</p>	<p>Explore the Fundamental Theorem of Arithmetic. <a href="http://www.pidburke.demon.co.uk/ntheory/node18.html">http://www.pidburke.demon.co.uk/ntheory/node18.html</a></p> <p><b>Connected Mathematics -</b> <i>Looking for Pythagoras</i> Investigation 2 Investigation 6 Data Around Us Investigation 1 Investigation 2 Investigation 3 Investigation 4 Investigation 6</p>	<p><a href="http://school.discovery.com/homeworkhelp/webmath/prealgebra.html">http://school.discovery.com/homeworkhelp/webmath/prealgebra.html</a></p>	
<p><b>NC 7.2-G</b> Extend estimation skills to include the relative size of large and small numbers (greater than billions – less than 100 thousandths) AND square roots.</p> <ul style="list-style-type: none"> <li>• M-8-NC-4</li> <li><input type="checkbox"/> MA-M-1.1.4</li> <li><input type="checkbox"/> MA-M-1.3.1</li> </ul>	<p>Total U.S. pumpkin production in 2000 was 0.894 billion pounds for a total value of \$101.6 million. Assuming an average price of \$5.00 per pumpkin, how many pumpkins were sold? What was the average weight per pumpkin?</p> <p>NCTM Menu of problems October 2002.</p> <p><b>Connected Math</b></p>	<p><b>Connected Math</b> <i>Data Around Us</i> Investigation 1 Investigation 2 Investigation 3 Investigation 4 Investigation 6</p>	<p><a href="#">Webmath - Pre-Algebra - Homework Help - DiscoverySchool.com</a></p>	

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	<p><i>Data Around Us TE Page 76; Question 6</i></p>			
<p><b>NC 7.3- G</b> Efficiently compare and order fractions, decimals, integers, and percents and plot their approximate locations of rational numbers on a number line. ☐ MA-M-1.3.1</p>	<p>The square root of 250 would be found between what two numbers on a number line? Explain your reasoning.</p> <p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a> Page 57; item N-13</p>	<p><b>Connected Math</b> <i>Comparing and Scaling</i> All Investigations <i>Accentuate the Negative</i> All Investigations</p>	<p><a href="http://school.discovery.com/homeworkhelp/webmath/prealgebra.html">http://school.discovery.com/homeworkhelp/webmath/prealgebra.html</a></p>	
<p><b>NC 7.4-G</b> Ratio and Proportion:</p> <ul style="list-style-type: none"> <li>➤ Understand and use ratio and proportions to represent quantitative relationships</li> <li>➤ Develop, analyze, and explain methods for solving problems involving proportions, such as scaling and finding equivalent relationships.</li> </ul> <p>☐ MA-M-1.1.3</p>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a> Page 40; Item L-14</p> <p><b>Connected Math</b> <i>Stretching and Shrinking</i> TE Page 173 Any Question on this page.</p>	<p><a href="#">Forest Problem</a></p> <p><a href="#">Pool Table Activity (NCTM)</a></p> <p><b>Connected Math</b> <i>Stretching and shrinking</i> All Investigations <i>Comparing and Scaling</i> All Investigations</p> <p><a href="#">Leonardo da Vinci Activity</a></p>	<p><a href="#">Math League Purple Math</a></p> <p><a href="#">Math Forum - Ask Dr. Math Archives: Middle School Ratio/Proportion</a></p> <p><a href="#">Ratios and Proportions</a></p>	

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<ul style="list-style-type: none"> <li>❑ MA-M-1.2.3</li> </ul>				
<p><b>NC 7.5-G</b> Use percentages and proportions in <b>consumer applications</b> (e.g. simple interest, % of increase/decrease, unit pricing, sale prices).</p> <ul style="list-style-type: none"> <li>❑ MA-M-1.1.1</li> <li>❑ MA-M-1.2.1</li> <li>❑ MA-M-1.2.2</li> <li>❑ MA-M-1.2.3</li> </ul>	<p>A shirt is on sale for 25% off the original price, <math>p</math>. Which equation could you use to figure out the sale price, <math>s</math>, of the shirt?</p> <p>A. <math>p = s + 25</math>            B. <math>s = p - .25</math>            C. <math>p = s + .25s</math>            D. <math>s = p - .25p</math></p> <p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a>            page 67; item 0-2</p>	<p>Collect ads from local businesses selling items of interest to 7<sup>th</sup> graders and flyers from credit card companies. Have students comparison shop for the best deal. Create spreadsheets to find out the ACTUAL cost of buying the item on credit. Find out how long each student would have to pay for the item on credit making only minimum payments.</p> <p><i>Comparing and Scaling Investigation1</i></p>	<p><a href="#">Prealgebra: InterAct Math: Chapter 7: Section 7.2</a></p> <p><a href="#">Practical Money Skills - For Teachers - Teens</a></p> <p><a href="#">UBUYACAR Tutor Manual</a></p>	
<p><b>NC 7.6-G</b> Understand the relationships among properties and operations (associative, commutative, distributive, inverse, etc.) and the order of operations AND use them efficiently to simplify computations with integers, fractions, decimals, and square</p>	<p>Fill in the appropriate operations signs (+, -, /, (, ) and sqrt only) to make the following sentences true.</p> <p>Note: One we can't do.</p> <p>2 2 2 = 6            3 3 3 = 6            4 4 4 = 6            5 5 5 = 6            6 6 6 = 6</p>	<p><a href="http://www.mste.uiuc.edu/user/s/aki/open_ended/p_calculator.html">http://www.mste.uiuc.edu/user/s/aki/open_ended/p_calculator.html</a></p> <p>Play the games KRYPTO and/or the 24 game</p> <p><b>Connected Mathematics</b>  <i>Thinking with Mathematical Models</i></p>	<p>Software Programs:</p> <p><a href="#">How the West was 1x3+4 Ten Tricky Tiles</a></p> <p><a href="#">XY-Blocks</a></p>	

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roots. <input type="checkbox"/> MA-M-1.3.1 <input type="checkbox"/> MA-M-1.3.2 <input type="checkbox"/> MA-M-1.2.5	$6 \ 7 \ 7 = 6$ $7 \ 8 \ 8 = 6$ $8 \ 9 \ 9 = 6$ NCTM Menu of Problems January 2001	Investigation 2 <i>Comparing and Scaling</i> Investigation 1 <i>Accentuate the Negative</i> All Investigations.		
<b>NC 7.7-G</b> Develop, analyze, and use algorithms/strategies for computing with integers) and irrational numbers (Pi, Square Roots, etc.) AND judge the reasonableness of the results.  <input type="checkbox"/> MA-M-1.3.2 <input type="checkbox"/> MA-M-1.3.3 <input type="checkbox"/> MA-M-1.2.1 <input type="checkbox"/> MA-M-1.2.2	A packaging company wants to find the most efficient package for canning their product. Efficient meaning the most volume with the least amount of metal. Which package would you choose?  A.) a can that is 5.4 cm radius and 5.5 mm tall. B.) A can that is 3.3 cm in diameter and 6.4 cm in height; C.) A can that is 4.8 in radius and 10.9.  Explain your reasoning.	<b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> Investigation 3 <i>Comparing and Scaling</i> All Investigations <i>Accentuate the Negative</i> All Investigations.	<a href="#">Description and Lesson plan for the Base 10 Blocks Program</a>	
<b>NC 7.8-G</b> Develop fluency in the use of estimation procedures (front-end +/- rounding; rounding; clustering, compatible numbers, etc.) and mental computation.	<i>Comparing and Scaling</i> TE 96; Question 1	<a href="http://www.edmath.org/potent/Measurement/spaghetti.html">http://www.edmath.org/potent/Measurement/spaghetti.html</a> <b>Connected Math</b> <i>Comparing and Scaling</i> All Investigations. <i>Accentuate the Negative</i> All Investigations. <i>Data Around Us</i>		

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M-		Investigation 5		
<p><b>NC 7.9-G</b> Select appropriate methods and tools for computing with fractions and decimals from among mental computation, estimation, calculators or computers, and paper and pencil, depending on the situation, and apply the selected method</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-1.2.1</li> <li><input type="checkbox"/> MA-M-1.2.2</li> <li><input type="checkbox"/> MA-M-1.2.4</li> <li><input type="checkbox"/> MA-M-1.2.5</li> <li><input type="checkbox"/> MA-M-1.3.1</li> <li><input type="checkbox"/> MA-M-1.3.2</li> <li><input type="checkbox"/> MA-M-1.3.3</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf</a> page 61; item N-16</p>	<p><b>Connected Mathematics</b> <i>Comparing and Scaling</i> All Investigations.</p> <p><i>Accentuate the Negative</i> All Investigations. <i>Data Around Us</i> Investigation 5</p>	<p>Software Programs: <a href="#">How the West was 1x3+4</a> <a href="#">Ten Tricky Tiles</a> Comparing and Scaling</p>	
<p><b>NC 7.10-G</b> Continue to develop fluency in computations with decimals, fractions, integers, and</p>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf</a> Page 37; Item L-11</p>	<p><a href="http://www.edmath.org/potent/Numbers/hamburgers.html">http://www.edmath.org/potent/Numbers/hamburgers.html</a> <b>Connected Math</b> <i>Comparing and Scaling</i> All Investigations</p>		

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percents (Including percents <1% and greater than 100%).		<i>Accentuate the Negative</i> All Investigations. <i>Data Around Us</i> Investigation 5		

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**Geometry and Measurement – Grade 7**

Big Ideas	End-Of-Year Test Question	Resources/Investigations	On-line Resources/Other	Notes/Comments
<p><b>GM 7.1-G</b> Develop fluency in the use of measurement systems (US customary and metric)</p> <ul style="list-style-type: none"> <li>➤ Estimating and accurately determining measurements for time, temperature (Fahrenheit and Celsius), size of angles (interior and exterior), perimeter/circumference, area, volume, weight, etc.</li> <li>➤ Converting units within the same system;</li> <li>➤ Solving measurement problems involving multiple steps and in depth reasoning.</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-2.1.5</li> <li><input type="checkbox"/> MA-M-2.2.2</li> <li><input type="checkbox"/> MA-M-2.2.4</li> <li><input type="checkbox"/> MA-M-2.2.5</li> <li><input type="checkbox"/> MA-M-2.2.6</li> <li><input type="checkbox"/> MA-M-2.3.1</li> </ul>	<p>How many seconds old are you?</p> <p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a></p> <p>Page 68; Item 0-3 (change the problem to read “name two angles whose measures must sum 180 degrees. Explain your reasoning”</p>	<p><b>Connected Mathematics</b> <i>Looking for Pythagoras</i> Investigation 3 <i>Filling and Wrapping</i> All Investigations <i>Data Around Us</i> Investigation 2 Investigation 6</p>		

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<p><b>GM 7.2-G</b> Derive and use formulas for various rates. (Examples: speed, acceleration, density distance, etc.) ☐ MA-M-2.3.1</p>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a>  Page 62; item n-17</p>	<p>Collaborate with science department to develop problem-solving situations in which students can apply formulas for rates.  <b>Connected Math</b> <i>Variables and Patterns</i></p>	<p><a href="http://standards.nctm.org/document/eexamples/chap6/6.2/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.2/index.htm</a></p>	
<p><b>GM 7.3G</b> Discover and apply the Pythagorean theorem in problem solving situations. ☐ MA-M-2.2.7</p>	<p>Tell whether a triangle with the given side lengths is a right triangle:  5 cm, 12 cm, 13 cm 11 cm, 7 cm, 7 cm</p>	<p><a href="http://standards.nctm.org/document/eexamples/chap6/6.5/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.5/index.htm</a>  <b>Connected Mathematics</b> <i>Looking for Pythagoras.</i> Investigation 3 Investigation 4</p>		
<p><b>GM 7.4G</b> Precisely describe, classify and understand relationships between and among two- and three-dimensional objects using their defining properties. ☐ MA-M-2.3.2</p>		<p><a href="http://illuminations.nctm.org/math/6-8/pooltable/index.html">http://illuminations.nctm.org/math/6-8/pooltable/index.html</a>  <b>Connected Math –</b> <i>Looking for Pythagoras</i> Investigation 3 Investigation 6 <i>Filling and Wrapping</i> All Investigations.</p>		

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<p><b>GM 7.5-G</b> Create and critique inductive and deductive arguments concerning geometric ideas and relationships such as congruence, similarity, and the Pythagorean relationship.</p> <p><input type="checkbox"/> MA-M-2.3.1</p>	<p>Could a circular trampoline with a radius of 6 feet fit through a garage doorway that is 10 feet high and 8 feet wide? Explain your reasoning.</p>	<p><a href="http://standards.nctm.org/document/eexamples/chap6/6.3/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.3/index.htm</a></p> <p><a href="http://standards.nctm.org/document/eexamples/chap6/6.5/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.5/index.htm</a></p> <p><b>Connected Mathematics</b> <i>Looking for Pythagoras.</i> All Investigations. <i>Stretching And Shrinking</i> All investigations. <i>Filling and Wrapping</i> Investigation 2 Investigation 4 Investigation 5</p>		
<p><b>GM 7.6-G</b> Use coordinate geometry to:</p> <ul style="list-style-type: none"> <li>➤ Examine special geometric shapes, such as regular polygons or those with pairs of parallel or perpendicular sides.</li> <li>➤ Find the distance between two points.</li> </ul> <p><input type="checkbox"/> MA-M-2.1.2 <input type="checkbox"/> MA-M-2.2.7 <input type="checkbox"/> MA-M-2.2.3</p>	<p>I have a parallelogram with diagonals perpendicular to each other. Which of the following quadrilaterals could I have?</p> <ul style="list-style-type: none"> <li>a.) a trapezoid</li> <li>b.) a rectangle</li> <li>c.) a kite</li> <li>d.) a rhombus</li> </ul> <p>answer: d</p>	<p><b>Connected Mathematics</b> <i>Looking for Pythagoras</i> Investigation 1 Investigation 6 <i>Stretching and Shrinking</i> Investigation 2.</p>		

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<p><b>GM 7.7-G</b> Develop and apply measurement and geometric formulas for volumes and surface areas of cubes, cylinders, and rectangular prisms-- and investigate the relationships between and among them.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-2.1.3</li> <li><input type="checkbox"/> MA-M-2.1.5</li> <li><input type="checkbox"/> MA-M-2.2.2</li> <li><input type="checkbox"/> MA-M-2.2.5</li> </ul>	<p>A tepee is a conical shaped tent used for shelter by the Plains Indians of North America. A typical tepee has a radius of approximately 9 feet and is approximately 10 feet high. What is the volume of a typical tepee?</p> <ul style="list-style-type: none"> <li>a) About 90 feet</li> <li>b) About 95 cubic feet</li> <li>c) About 180 cubic feet</li> <li>d) About 90 cubic feet</li> </ul>	<p><a href="http://standards.nctm.org/document/eexamples/chap6/6.1/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.1/index.htm</a></p> <p><b>Connected Mathematics</b> Stretching and Shrinking <i>Investigation 6</i> Filling and Wrapping <i>All Investigations.</i></p>		
<p><b>GM 7.8-G</b> Apply proportionality relationships between scale models and actual figures:</p> <ul style="list-style-type: none"> <li>➤ Determine scale factor</li> <li>➤ Effect of dilation/reduction on area and perimeter.</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIitems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIitems.pdf</a> Page 134; Item u2A Page 134; Item U2b</p> <p><b>Connected Math</b> <i>Stretching and Shrinking</i> TE Page 92 Question 4</p>	<p><b>Connected Math</b> <i>Stretching and Shrinking</i> All Investigations. <i>Filling and Wrapping</i> Investigation 6</p>		

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<p><b>GM 7.9-G</b></p> <ul style="list-style-type: none"> <li>➤ Investigate transformations, congruence, proportionality, and similarity in a coordinate plane.</li> <li>➤ Create and analyze tessellations               <ul style="list-style-type: none"> <li>❑ MA-M-2.2.3</li> <li>❑ MA-M-2.3.2</li> <li>❑ MA-M-2.1.1</li> <li>❑ MA-M-2.1.4</li> </ul> </li> </ul>	<p><b>Connected Math</b> <i>Stretching and Shrinking</i> Page 87 Question 2</p>	<p><a href="http://standards.nctm.org/document/examples/chap6/6.3/index.htm">http://standards.nctm.org/document/examples/chap6/6.3/index.htm</a></p> <p><b>Connected Mathematics</b> <i>Stretching and shrinking</i> All Investigations.</p>		
<p><b>GM 7.10-G</b> Counting techniques through shortest paths (e.g., networks)</p> <ul style="list-style-type: none"> <li>❑ MA-M-2.3.2</li> <li>❑ MA-M-2.2.1</li> </ul>	<p><a href="http://mathforum.com/dmpow/solutions/solution.ehtml?puzzle=7">http://mathforum.com/dmpow/solutions/solution.ehtml?puzzle=7</a></p>	<p><b>Connected Mathematics</b> Looking for Pythagoras <i>Investigation 1</i></p>		

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<p><b>GM 7.10-G</b> Investigate geometric constructions (e.g. bisecting an angle, constructing a perpendicular bisector, constructing an angle of a given measurement, etc.</p>	<p>Draw a ray that will bisect the angle below:</p>	<p>NCTM Addenda Series, Grades 9-12; Page 74 - 78</p>		

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**Probability and Statistics – Grade7 – Gifted/Talented**

Big Ideas	End-Of-Year Test Question	Resources/Investigations	On-line Resources/Other	Notes/Comments
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<p><b>PS 7.1-G</b> Collect, organize, analyze and interpret data in a variety of graphical methods including multiple line and bar graphs and double stem and leaf plots, scatter plots, and box-and-whiskers plots and justify its use.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-3.2.2</li> <li><input type="checkbox"/> MA-M-3.2.1</li> <li><input type="checkbox"/> MA-M-3.1.3</li> <li><input type="checkbox"/> MA-M-3.3.1</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf</a> Page 66;, item 0-1</p>	<p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> Investigation 3 <i>Variables and Patterns</i> Investigation 1 Investigation 2 <i>Samples and Populations</i> (Box and Whiskers Plots) All Investigations</p>		
<p><b>PS 7.2-G</b> Determine and interpret measure of central tendency and spread including clusters, quartiles, gaps, and outliers in data.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-3.1.1</li> <li><input type="checkbox"/> MA-M-3.1.2</li> <li><input type="checkbox"/> MA-M-3.2.3</li> </ul>		<p><b>Connected Math</b> <i>Variables and Patterns</i> Investigation 1 Investigation 2 <i>Samples and Populations</i> Investigation 3</p>		
<p><b>PS 7.3- G</b> Compare data from various types of graphs and recognize that data can be displayed (including misleading/biased displays) and interpreted in many ways.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-3.3.3</li> <li><input type="checkbox"/> MA-M-3.3.1</li> <li><input type="checkbox"/> MA-M-3.1.3</li> <li><input type="checkbox"/> MA-M-3.2.1</li> </ul>		<p><b>Connected Math</b> <i>Variables and Patterns</i> All Investigations. <i>Samples and Populations</i> Investigation 2</p>		

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Big Ideas	End-Of-Year Test Question	Resources/Investigations	On-line Resources/Other	Notes/Comments
<p><b>PS 7.4-G</b> Formulate questions, design studies, and collect data about a characteristic shared by two populations or different characteristics within one population.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-3.2.1</li> </ul>		<p><b>Connected Math</b> <i>Variables and Patterns</i> Investigation 1 Investigation 2 <i>Samples and Populations</i> Investigation 2 Investigation 3</p>		
<p><b>PS 7.5-G</b> Make conjectures about possible relationships between two characteristics of a sample on the basis of scatter plots of the data and approximate lines of fit.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-3.2.2</li> <li><input type="checkbox"/> MA-M-3.2.5</li> </ul>		<p><b>Connected Math</b> <i>Variables and Patterns</i> Investigation 1 Investigation 2 <i>Samples and Populations</i> Investigation 4</p>		
<p><b>PS 7.6-G</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Determine and use appropriate techniques for investigating solutions to probability problems and describing the number of possible outcomes using fractions, decimals, percents, and/or area models.</li> <li><input type="checkbox"/> MA-M-3.2.6</li> <li><input type="checkbox"/> MA-M-3.2.7</li> </ul>	<p><a href="http://www.edmath.org/potent/Numbers/checkers.html">http://www.edmath.org/potent/Numbers/checkers.html</a></p> <p><a href="http://www.nctm.org/middle/solutions.asp?ID=155">http://www.nctm.org/middle/solutions.asp?ID=155</a></p> <p><b>Connected Math</b> <i>What do you expect?</i> TE Page 92 problem 8</p>	<p><b>Connected Math</b> <i>What do you Expect?</i> Investigation 1 Investigation 2 Investigation 3 Investigation 5 Investigation 6</p>		

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Big Ideas	End-Of-Year Test Question	Resources/Investigations	On-line Resources/Other	Notes/Comments
<p><b>PS 7.7-G</b> Determine theoretical &amp; experimental probabilities for simple compound events by designing and conducting experiments and interpreting/explaining the differences.  <input type="checkbox"/> MA-M-3.2.4</p>	<p><b>Connected Math</b> <i>What do you expect?</i> TE Page 90 Problem 4</p>	<p><a href="http://www.nku.edu/~gabbarda/lesson.htm">http://www.nku.edu/~gabbarda/lesson.htm</a></p> <p><b>Connected Math</b> <i>What do you Expect?</i> Investigation 1 Investigation 6</p>		
<p><b>PS 7.8-G</b> Identify events as random or independent events and justify decision.  <input type="checkbox"/> MA-M-3.2.2</p>	<p><b>Connected Math</b> <i>What do you expect?</i> TE Page 166 Question 1</p>	<p><b>Connected Math</b> <i>What do you Expect?</i> Investigation 4</p>		
<p>PS 7.9-G Analyze situations such as games of chance, board games, grading scales and make predictions using knowledge of probability  <input type="checkbox"/> MA-M-3.2.6  <input type="checkbox"/> MA-M-3.2.7  <input type="checkbox"/> MA-M-3.3.1</p>	<p><b>Connected Math</b> <i>What do you expect?</i> TE Page 91 problem 7</p>	<p><b>Connected Math</b> <i>What do you Expect?</i> Investigation 1 Investigation 2 Investigation 6</p>		
<p><b>PS 7.10-G</b> Investigate and explain the role of probability in everyday</p>	<p><b>Connected Math</b> <i>What do you expect?</i> TE Page 170 Question 2</p>	<p><b>Connected Math</b> <i>What do you expect?</i> Investigation 6 Choosing the best game.</p>		

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Big Ideas	End-Of-Year Test Question	Resources/Investigations	On-line Resources/Other	Notes/Comments
decision-making. <input type="checkbox"/> MA-M=3.3.4				

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**Algebraic Ideas – Grade 7 – Gifted/Talented**

<b>Big Ideas</b>	<b>End-Of-Year Test Question</b>	<b>Resources/Investigations</b>	<b>On-line Resources/Other</b>	<b>Notes/Comments</b>
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<p><b>A 7.1-G</b> Recognize, analyze, create, and continue patterns – generalizing to nth term and defending generalizations.</p> <ul style="list-style-type: none"> <li>❑ MA-M-4.2.4</li> <li>❑ MA-M-4.3.1</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf</a></p> <p>Page 126; Item T2b</p>	<p><a href="http://www.nku.edu/~mathed/milliondollar.pdf">http://www.nku.edu/~mathed/milliondollar.pdf</a></p> <p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> All Investigations <i>Variables and Patterns</i> All investigations. <i>Moving straight Ahead</i> Investigation 1</p>		
<p><b>A 7.2-G</b> Represent, interpret, and describe functional relationships through tables, graphs, verbal, and symbolic rules -- especially those that involve linear relationships.</p> <ul style="list-style-type: none"> <li>❑ MA-M-4.1.2</li> <li>❑ MA-M-4.2.3</li> <li>❑ MA-M-4.2.5</li> <li>❑ MA-M-4.2.6</li> </ul>	<p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> TE Page 64; Question 7</p>	<p><a href="http://www.nku.edu/~mathed/statisticslesson.pdf">http://www.nku.edu/~mathed/statisticslesson.pdf</a></p> <p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> Investigation 1 <i>Variables and Patterns</i> All Investigations. <i>Predicting from Patterns</i> All Investigations</p>		
<p><b>A 7.3-G</b> Identify functions as linear or nonlinear and contrast properties from tables, graphs, or equations.</p> <ul style="list-style-type: none"> <li>❑ MA-M-4.1.2</li> </ul>	<p>Explain how you can recognize a linear relationship from an equation. Give an example.</p>	<p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> Investigation 2 <i>Looking for Pythagoras</i> Investigation 4 <i>Predicting from Patterns</i> All Investigations</p>		

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<p><b>A 7.4-G</b> Use a variety of methods (e.g., substitution, formula, in/out charts, etc.) and representations to create and solve linear equations involving one or more variables and one or more steps.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-4.1.1</li> <li><input type="checkbox"/> MA-M-4.1.2</li> <li><input type="checkbox"/> MA-M-4.2.2</li> <li><input type="checkbox"/> MA-M-4.2.3</li> <li><input type="checkbox"/> MA-M-4.2.4</li> <li><input type="checkbox"/> MA-M-4.2.6</li> <li><input type="checkbox"/> MA-M-4.3.1</li> </ul>	<p>  MC   F:4A Q: 9 Sect:A  Content:30   Matrix   Artid:</p> <p>Evaluate the expression:  <math>3a - 2(b + 9)</math>, where <math>a = 5</math> and <math>b = 6</math>.          A. -15          B. -10          C. 15          D. 30</p> <p><a href="#">TIMSS Released Achievement Item Sets</a>          Page 10; I-8</p>	<p><a href="http://www.nku.edu/~amburgey/samplelesson.htm">http://www.nku.edu/~amburgey/samplelesson.htm</a></p> <p><b>Connected Mathematics</b>  <i>Variables and Patterns</i>          Investigation 1  <i>Predicting from Patterns</i>          All Investigations</p>		
<p><b>A-7.5-G</b> Solve inequalities using a variety of methods and representations</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-4.1.1</li> <li><input type="checkbox"/> MA-M-4.2.2</li> <li><input type="checkbox"/> MA-M-4.2.3</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a>          Page 57; item N-13</p>			
<p><b>A-7.6-G</b> Recognize and generate equivalent forms for simple algebraic expressions and solve linear equations.</p> <ul style="list-style-type: none"> <li>➤ Simplify simple algebraic expressions.</li> <li>➤ Express formulas in equivalent forms ( example: <math>d=r*t</math>; <math>d/t = r</math>; <math>r=d/t</math>)</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-4.2.1</li> <li><input type="checkbox"/> MA-M-4.2.2</li> </ul>	<p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a>          Page 27; K-4          Page 42; Item L-16</p>	<p><b>Connected Math</b>  <i>Variables and Patterns</i>          Investigation 4  <i>Predicting from Patterns</i>          All Investigations</p>		

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<p>☐ MA-M-4.2.6</p>				
<p><b>A 7.7-G</b> Explore relationships between symbolic expressions and graphs of lines, paying particular attention to the meaning of intercept and slope.</p> <p>☐ MA-M-4.1.2 ☐ MA-M-4.2.5 ☐ MA-M-4.3.1 ☐ MA-M-4.3.2</p>	<p>Graph the solution to <math>K \geq 6/5</math> on a number line.</p>	<p><b>Connected Mathematics</b> Predicting from Patterns All Investigations Thinking with Mathematical Models Investigation 1 Looking for Pythagoras – Investigation 6 Variables and Patterns Investigation 1 Investigation 4</p>		
<p><b>A 7.8-G</b> Model and solve contextualized problems using various representations such as graphs, tables and equations.</p> <p>☐ MA-M-4.2.3 ☐ MA-M-4.2.5</p>	<p>A shirt is on sale for 25% off the original price, <math>p</math>. Which equation could you use to figure out the sale price, <math>s</math>, of the shirt?</p> <p>A. <math>p = s + 25</math> B. <math>s = p - .25</math> C. <math>p = s + .25s</math> D. <math>s = p - .25p</math></p> <p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMItems.pdf</a></p> <p>Page 122; Item T-1b</p>	<p><b>Connected Mathematics</b> Thinking with Mathematical Models Investigation 1 Investigation 4 Variables and Patterns All Investigations</p>		

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	Page 118; Item s-2c			
<p><b>A 7.9-G</b> Graph in all four quadrants of a Cartesian system/grid to analyze and understand how change in one variable affects changes in another variable (e.g.; <math>s=d/t</math>; acceleration; <math>d=rt</math>; etc.)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA-M-4.1.3</li> <li><input type="checkbox"/> MA-M-4.2.5</li> <li><input type="checkbox"/> MA-M-4.3.2</li> </ul>	<p><b>Connected Mathematics</b> <i>Thinking with Mathematical Models</i> TE Page 65 Question 1.</p> <p><a href="http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf">http://timss.bc.edu/timss1995i/TIMSSPDF/BMIItems.pdf</a> Page 66; O-1</p>	<p><a href="http://standards.nctm.org/document/eexamples/chap6/6.2/index.htm">http://standards.nctm.org/document/eexamples/chap6/6.2/index.htm</a></p> <p><b>Connected Mathematics</b> <i>Predicting from Patterns</i> All Investigations <i>Accentuate the Negative</i> Investigation 5 <i>Thinking with Mathematical Models</i> Investigation 1 Investigation 2 Investigation 4 <i>Looking for Pythagoras</i> Investigation 1 Investigation 3 <i>Variables and Patterns</i> All Investigations. <i>Stretching and Shrinking</i> Investigation 2</p>		

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<p><b>A 7.10-G</b>          Investigate the concept of dependent variable and independent variables and the relationships between them.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MA.M.-4.1.1</li> <li><input type="checkbox"/> MA.M-4.3.1</li> <li><input type="checkbox"/> MA-M-4.3.2</li> </ul>	<p><b>Connected Mathematics</b>  <i>Variables and Patterns</i>, TE,</p>	<p><b>Connected Mathematics</b>  <i>Variables and Patterns</i>          Investigation 1  <i>Predicting from Patterns</i>          All Investigations</p>		
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