



# Course-at-a-Glance (CAG) --- Mathematics --- Grade 7

First Semester	Second Semester
<p><b>Unit 1: 2-D and 3-D Geometry</b> (4 weeks) <b>Approximate dates: August 29 – September 26, 2016</b></p> <p><b>1.1</b> I can use the ratio of a circle's circumference to its diameter to calculate pi. (7.3.1.1) <b>1.2</b> I can calculate the circumference of a circle. (7.3.1.1) <b>1.3</b> I can calculate the area of a circle. (7.3.1.1) <b>1.4</b> I can calculate the volume of a cylinder and justify its formula. (7.3.1.2) <b>1.5</b> I can calculate the surface area of a cylinder and justify its formula. (7.3.1.2)</p> <p><b>Unit 2: Integers and Rational Numbers</b> (6 weeks) <b>Approximate dates: September 27 – November 14, 2016</b></p> <p><b>2.1</b> I can locate and plot positive and negative numbers and their opposites on a number line. (7.1.1.3) <b>2.2</b> I can compare positive and negative rational numbers using <math>&lt;</math>, <math>&gt;</math>, <math>\leq</math>, <math>\geq</math>, <math>=</math>. (7.1.1.4) <b>2.3</b> I can add and subtract positive and negative rational numbers and use them to solve real world problems. (7.1.2.1, 7.1.2.2) <b>2.4</b> I can define absolute value and solve problems that use absolute value. (7.1.2.6) <b>2.5</b> I can locate and plot pairs of rational numbers (positive and negative) on a coordinate grid. (7.1.1.3) <b>2.6</b> I can multiply and divide positive and negative rational numbers and use them to solve real-world problems. (7.1.2.1, 7.1.2.2) <b>2.7</b> I can use the correct order of operations to evaluate numerical and algebraic expressions. (7.2.3.1, 7.2.3.2, 7.2.3.3) <b>2.8</b> I can generate equivalent numerical and algebraic expressions using associative, commutative, and distributive laws. (7.2.3.1, 7.2.3.3)</p> <p><b>Unit 3: Ratios and Proportional Reasoning</b> (6 weeks) <b>Approximate dates: November 15, 2016 – January 13, 2017</b></p> <p><b>3.1</b> I can identify rational and irrational numbers, and explain the difference between them. (7.1.1.1) <b>3.2</b> I can generate equivalent representations of rational numbers and use them to solve problems. (7.1.1.2, 7.1.1.5) <b>3.3</b> I can use my knowledge of rational numbers to calculate simple and compound interest. (7.1.2.4, 7.1.2.3) <b>3.4</b> I can solve multi-step problems involving proportional relationships and explain why my solution is reasonable. (7.1.2.5, 7.2.2.2) <b>3.5</b> I can use proportional reasoning to solve an equation or problem in a variety of contexts, including arc length and sector area of circles. (7.2.2.2, 7.2.2.3, 7.3.1.1) <b>3.6</b> I can apply scale factors to determine side lengths and areas of similar figures in a drawing or context. (7.3.2.1, 7.3.2.2) <b>3.7</b> I can use proportions and ratios to solve problems with scale drawings and conversions of measurement units, including square units. (7.3.2.3)</p>	<p><b>Unit 4: Proportional Relationships</b> (6 weeks) <b>Approximate dates: January 17 – March 3, 2017</b></p> <p><b>4.1</b> I can write a proportional relationship as <math>y = kx</math> or <math>y/x = k</math>, and distinguish it from other relationships (including linear and inversely proportional relationships). (7.2.1.1) <b>4.2</b> Given a table, graph, equation, context, or language for a proportional relationship, I can generate all of the other forms. (7.2.1.2, 7.2.2.1, 8.2.2.1) <b>4.3</b> I can connect real-world or mathematical situations to equations and inequalities. (7.2.2.4) <b>4.4</b> I can solve equations for a variable using the properties of equality and explain what my solution means. (7.2.4.1, 7.2.4.2) <b>4.5</b> I can graph and describe translations and reflections of figures on a coordinate grid and I can predict the coordinates of the vertices for the transformed figure. (7.3.2.4)</p> <p><b>Unit 5: Data and Probability</b> (5 weeks) <b>Approximate dates: March 6 – April 17, 2017</b></p> <p><b>5.1</b> I can calculate mean, median, and range and use these quantities to make predictions or draw conclusions. (7.4.1.1) <b>5.2</b> I can describe the impact that inserting or deleting a data point has on the mean and the median of a data set. (7.4.1.2) <b>5.3</b> I can create and interpret data in frequency tables or histograms. (7.4.2.1, 7.4.3.1) <b>5.4</b> I can create and interpret data in circle graphs. (7.4.2.1) <b>5.5</b> I can calculate the probability of an event as a percent, decimal, or fraction. (7.4.3.2) <b>5.6</b> I can use proportional reasoning to make predictions based on probabilities. (7.4.3.3)</p> <p><b>MCA Testing (1 week) Units 1 – 5 must be taught prior to MCA testing.</b> <b>Approximate dates: April 24 – 28, 2017</b></p> <p><b>Unit 6: Linear Relationships</b> (6 weeks) <b>Approximate dates: May 1 – June 14, 2017</b></p> <p><b>6.1</b> Given a table, graph, equation, context, or language for a linear relationship, I can generate all of the other forms. (8.2.2.1, 8.2.2.4) <b>6.2</b> I can recognize slope as the constant rate of change in all forms of a linear function. (8.2.2.2, 8.2.4.1) <b>6.3</b> I can identify the y-intercept of any linear function. (8.2.2.2) <b>6.4</b> I can solve equations for a variable using the properties of equality and explain what my solutions mean. (8.2.4.2)</p>