



# Course-at-a-Glance --- Mathematics --- Telescoped Math 7/Algebra 8

First Semester	Second Semester
<p><b>Unit 1: 2-D and 3-D Geometry</b> (3 weeks) <b>Approximate dates: August 29 – September 19, 2016</b></p> <p>1.1 I can use the ratio of a circle's circumference to its diameter to calculate pi. (7.3.1.1) 1.2 I can calculate the circumference of a circle. (7.3.1.1) 1.3 I can calculate the area of a circle. (7.3.1.1) 1.4 I can calculate the volume of a cylinder and justify its formula. (7.3.1.2) 1.5 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> (5 weeks) <b>Approximate dates: September 20 – October 27, 2016</b></p> <p>2.1 I can locate and plot positive and negative numbers and their opposites on a number line. (7.1.1.3) 2.2 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) 2.3 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) 2.4 I can define absolute value and solve problems that use absolute value. (7.1.2.6) 2.5 I can locate and plot pairs of rational numbers (positive and negative) on a coordinate grid. (7.1.1.3) 2.6 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) 2.7 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) 2.8 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) 2.9 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> (4 weeks) <b>Approximate dates: October 28 – December 1, 2016</b></p> <p>3.1 I can identify rational and irrational numbers, and explain the difference between them. (7.1.1.1) 3.2 I can generate equivalent representations of rational numbers and use them to solve problems. (7.1.1.2, 7.1.1.5) 3.3 I can use my knowledge of rational numbers to calculate simple and compound interest. (7.1.2.4, 7.1.2.3) 3.4 I can solve multi-step problems involving proportional relationships and explain why my solution is reasonable. (7.1.2.5, 7.2.2.2) 3.5 I can use proportional reasoning to solve an equation or problem in a variety of contexts. (7.2.2.2, 7.2.2.3)</p> <p><b>Unit 4: Data and Probability</b> (5 weeks) <b>Approximate dates: December 2, 2016 – January 23, 2017</b></p> <p>4.1 I can calculate mean, median, and range and use these quantities to make predictions or draw conclusions. (7.4.1.1) 4.2 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) 4.3 I can create and interpret data in frequency tables or histograms. (7.4.2.1, 7.4.3.1) 4.4 I can create and interpret data in circle graphs. (7.4.2.1) 4.5 I can use proportional reasoning to calculate arc length and sector area of circles. (7.3.1.1) 4.6 I can calculate the probability of an event as a percent, decimal, or fraction. (7.4.3.2) 4.7 I can use proportional reasoning to make predictions based on probabilities. (7.4.3.3)</p>	<p><b>Unit 5: Proportional and Linear Relationships</b> (7 weeks) <b>Approximate dates: January 24 – March 17, 2017</b></p> <p>5.1 Given a table, graph, equation, context, or language for proportional and linear relationships, I can generate all of the other forms. (7.2.1.2, 7.2.2.1, 8.2.2.1, 8.2.4.1) 5.2 I can recognize that a function is linear if it is written in the form <math>f(x) = mx + b</math>. (8.2.1.3) 5.3 I can connect real-world or mathematical situations to equations. (7.2.2.4) 5.4 I can identify and interpret the meaning of the y-intercept and slope of a linear function in any form. (8.2.2.2) 5.5 I can show how the changes to the coefficient affect the graph of a linear function and how a change to the input variable affects the output variable. (8.2.2.3, 8.2.1.2) 5.6 I can represent arithmetic sequences as linear functions in tables, graphs, equations of the form <math>f(x) = mx + b</math>, and verbal descriptions. (8.2.1.4, 8.2.2.4) 5.7 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)</p> <p><b>Unit 6: Equations and Solving</b> (2 weeks) <b>Approximate dates: March 20-30, 2017</b></p> <p>6.1 I can evaluate algebraic expressions, including expressions containing radicals and absolute values, and justify the algebraic properties. (7.2.3.1, 7.2.3.3, 8.2.3.1) 6.2 I can solve multi-step equations in one variable and justify the steps by identifying the algebraic properties used. (7.2.4.1, 7.2.4.2, 8.2.4.2, 8.2.3.2)</p> <p><b>MCA Testing</b> (1 week) Units 1 – 5, AND Learning Targets 6.1 and 6.2 <b>must</b> be taught prior to MCA testing. <b>Approximate dates: April 10-14, 2017</b></p> <p><b>Unit 6: Equations and Solving (cont.)</b> (5 weeks) <b>Approximate dates: April 17 – May 12, 2017</b></p> <p>6.3 I can solve linear inequalities and graph the solution on a number line. (8.2.4.5) 6.4 I can use linear inequalities to represent relationships in various contexts. (8.2.4.4) 6.5 I can solve equations and inequalities involving absolute values and graph the solution on a number line. (8.2.4.6)</p> <p><b>Unit 7: Pythagorean Theorem</b> (4 weeks) <b>Approximate dates: May 15 – June 14, 2017</b></p> <p>7.1 I can explain the relationship between areas of squares and square roots. (8.2.4.9) 7.2 I can classify real numbers as either rational or irrational, including sums and products of real numbers. (8.1.1.1) 7.3 I can approximate the value of irrational numbers and locate them on a number line. (8.1.1.2, 8.1.1.3) 7.4 I can use the Pythagorean Theorem to solve problems involving right triangles. (8.3.1.1) 7.5 I can demonstrate a justification for the Pythagorean Theorem. (8.3.1.3) 7.6 I can find the distance between two points on a coordinate grid by using the Pythagorean Theorem. (8.3.1.2)</p>