



Course-at-a-Glance --- Mathematics --- Algebra 8

First Semester	Second Semester
<p>Unit 1: Equations and Solving (7 weeks) Approximate dates: August 29 – October 18, 2016</p> <p>1.1 I can evaluate algebraic expressions, including expressions containing radicals and absolute values, and justify the algebraic properties. (8.2.3.1)</p> <p>1.2 I can solve multi-step equations in one variable and justify the steps by identifying the algebraic properties used. (8.2.4.2, 8.2.3.2)</p> <p>1.3 I can solve linear inequalities and graph the solution on a number line. (8.2.4.5)</p> <p>1.4 I can use linear inequalities to represent relationships in various contexts. (8.2.4.4)</p> <p>1.5 I can solve equations and inequalities involving absolute values and graph the solution on a number line. (8.2.4.6)</p> <p>Unit 2: Linear Functions (4 – 5 weeks) Approximate dates: October 24 – November 30, 2016</p> <p>2.1 I can determine if a relationship is a function and use function notation to show the relationship between the independent and dependent variables. (8.2.1.1)</p> <p>2.2 I can represent arithmetic sequences as linear functions in tables, graphs, equations of the form $f(x) = mx + b$, and verbal descriptions. (8.2.1.4, 8.2.2.4)</p> <p>2.3 I can interpret the meaning of the y-intercept and slope of a linear function using a contextual graph. (8.2.2.2)</p> <p>2.4 I can recognize that a function is linear if it is written in the form $f(x) = mx + b$. (8.2.1.3)</p> <p>2.5 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)</p> <p>2.6 Given a table, graph, equation, context, or language for a linear relationship, I can generate all of the other forms. (8.2.2.1, 8.2.4.1)</p> <p>Unit 3: Applied Linear Functions (4 weeks) Approximate dates: December 1, 2016 – January 6, 2017</p> <p>3.1 I can write an equation of a line and convert between slope-intercept, point-slope, and standard forms. (8.2.4.3)</p> <p>3.2 I can collect, display, and interpret data using scatterplots. (8.4.1.1)</p> <p>3.3 I can analyze the reasonableness of a line of best fit and use it to make predictions. (8.4.1.2, 8.4.1.3)</p> <p>3.4 I can write an equation for a line of best fit and analyze its reasonableness. (8.4.1.2, 8.4.1.3)</p> <p>Unit 4: Systems of Linear Equations (5 weeks) Approximate dates: January 9 – February 16, 2017</p> <p>4.1 I can write an equation of a line that is parallel or perpendicular to any given line. (8.3.2.1, 8.3.2.3)</p> <p>4.2 I can categorize polygons by finding the slopes of their sides. (8.3.2.2)</p> <p>4.3 I can solve a system of equations using a table or graph, and determine if a system has 0, 1, or infinite solutions. (8.2.4.7, 8.2.4.8)</p> <p>4.4 I can model a context using a system of linear equations. (8.2.4.7)</p> <p>4.5 I can solve a system of equations using substitution or elimination, and determine if a system has 0, 1, or infinite solutions. (8.2.4.7, 8.2.4.8)</p>	<p>Unit 5: Pythagorean Theorem (4 weeks) Approximate dates: February 21 – March 20, 2017</p> <p>5.1 I can explain the relationship between areas of squares and square roots. (8.2.4.9)</p> <p>5.2 I can classify real numbers as either rational or irrational, including sums and products of real numbers. (8.1.1.1)</p> <p>5.3 I can approximate the value of irrational numbers and locate them on a number line. (8.1.1.2, 8.1.1.3)</p> <p>5.4 I can use the Pythagorean Theorem to solve problems involving right triangles. (8.3.1.1)</p> <p>5.5 I can demonstrate a justification for the Pythagorean Theorem. (8.3.1.3)</p> <p>5.6 I can find the distance between two points on a coordinate grid by using the Pythagorean Theorem. (8.3.1.2)</p> <p>Unit 6: Exponential Functions (4 weeks) Approximate dates: March 21 – April 25, 2017</p> <p>6.1 I can represent geometric sequences as exponential functions in tables, graphs, equations, and verbal descriptions. (8.2.2.5)</p> <p>6.2 I can write an exponential relationship (growth or decay) based on real-life context. (8.2.1.5)</p> <p>6.3 I can express and interpret numbers using scientific notation, including those on calculator displays. (8.1.1.5)</p> <p>6.4 I can apply the properties of positive and negative integer exponents to simplify expressions, including those involving products and quotients of numbers in scientific notation. (8.1.1.4, 8.1.1.5)</p> <p>MCA Testing (1 week) Units 1 – 6 must be taught prior to MCA testing. Approximate dates: May 1-5, 2017</p> <p>Unit 7: Quadratic Relationships (4 weeks) Approximate dates: May 8 – June 15, 2017</p> <p>7.1 I can identify patterns of change for quadratic relationships in tables, graphs, and problem situations. (9.2.2.1)</p> <p>7.2 I can develop a quadratic equation written in factored or in expanded form. (9.2.1.5, 9.2.1.6)</p> <p>7.3 I can identify linear, exponential, and quadratic relationships by looking at patterns of change in tables, graphs, equations, and problem situations. (9.2.2.1, 9.2.2.2)</p>