

		<p>linear association, identify a line of best fit by judging the closeness of the data points to the line.</p> <p>M08.B-E.3.1.1 Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p> <p>M08.B-E.3.1.2 Solve linear</p>				<p>a graph represents a function.</p>
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		<p>equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p>M08.B-F.1.1.1 Determine whether a relation is a function.</p> <p>M08.B-F.1.1.3 Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.</p> <p>(A1.2.1.1.2) Determine whether a relation is a function given</p>				
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		a set of points or a graph.				
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Month(s): September - October	Unit 2
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Determine the equation of a line from multiple representations.

<u>Big Idea</u>	<u>Standards</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Understand the connections between proportional relationships, lines, and linear equations.</p> <p>Analyze and solve linear equations and pairs of simultaneous linear equations.</p>	<p>CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</p> <p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations</p> <p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p>	<p>M08.B-E.2.1.3 Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p> <p>M08.B-E.3.1.3 Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.</p> <p>M08.B-E.3.1.4 Solve systems</p>	<p>How do I use $y=mx+b$ to create a line equation from a table?</p> <p>How do I use $y=mx+b$ to create a line equation from a graph?</p> <p>How do I use $y=mx+b$ to create a line equation from a pattern?</p> <p>How do I solve a system of equations by graphing?</p> <p>How can I use $y=mx+b$ to create a system of equations and solve?</p>		<p>slope</p> <p>y-intercept</p> <p>system of equations</p> <p>point of intersection</p> <p>equal values method</p>	<p>Read a Table</p> <p>Understand slope and y- intercept on a graph, in a table, and in a pattern.</p> <p>Create a line graph</p> <p>Solve equation using equal values method.</p>

		<p>of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection.</p> <p>A1.1.2.2.1 Write and/or solve a system of linear equations using graphing, substitution, and/or elimination.</p> <p>A1.1.2.1.1 Write, Solve, and /or apply a linear equation.</p> <p>A1.2.1.2.2 Translate from one representation of a linear function to another (i.e., graph, table, and equation).</p> <p>A1.2.1.1.3 Identify the domain or range of a</p>				
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		<p>relation (may be presented as ordered pairs, a graph, or a table).</p> <p>A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.</p>				
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Month(s): October	Unit 5
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Multiply binomials. Use the laws of exponents to simplify expressions.

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Write expressions in equivalent forms to solve problems.</p> <p>Apply concepts of radicals and integer exponents to generate equivalent expressions.</p>	<p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations</p> <p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p>	<p>M08.B-E.3.1.2 Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like</p>	<p>How do I multiply binomials?</p> <p>How do I use the laws of exponents to simplify expressions?</p>		<p>generic rectangle distributive property polynomial monomial binomial</p>	<p>Use a generic rectangle to multiply polynomials</p> <p>Use the laws of exponents to simplify radical expressions</p> <p>Use the laws of exponents to simplify multiplication</p> <p>Use the laws of exponents to simplify division</p>

		<p>terms.</p> <p>M08.B-E.1.1.1 Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents).</p> <p>A1.1.1.3.1 Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems.</p> <p>A1.1.1.1.2 Simplify square roots</p> <p>A1.1.1.5.1 Add, subtract,</p>				<p>Use the laws of exponents to rewrite expressions with negative exponents</p> <p>Use the laws of exponents to rewrite expressions with an exponent of 0</p> <p>Distinguish between rational and irrational numbers to rewrite radical expressions in simplest form. (e.g., $\sqrt{24} = 2\sqrt{6}$)</p>
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		and /or multiply polynomial expressions.				
Month(s): November			Unit 6			
Solve systems of linear equations.						
<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
Analyze and solve linear equations and pairs of simultaneous linear equations	<p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>CC.2.2.HS.D.9 Using reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.</p> <p>(M08.B-E.3.1.3)</p> <p>Interpret solutions to problems in the context of the problem situation. (A1.1.2.2.2)</p> <p>Solve systems of two linear</p>	<p>How to I use the elimination method to solve a system of equations?</p> <p>How to I use the substitution method to solve a system of equations?</p> <p>What is the most efficient way to solve a system of equations?</p> <p>How do I identify the solution to a system of equations?</p> <p>How do I interpret the solution to a system of equations?</p>		<p>Coefficients “Let” statement</p> <p>Substitution method</p> <p>Coincide</p> <p>Parallel Elimination Method</p> <p>Mathematical sentence</p>	<p>Solving a system of equations using substitution</p> <p>Solving a system of equations using elimination</p> <p>Solving a system of equations by graphing</p>

		<p>equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. (M08.B-E.3.1.4)</p> <p>Write and/or solve a system of linear equations using graphing, substitution, and/or elimination. (A1.1.2.2.1)</p> <p>Interpret solutions to problems in the context of the problem situation. Note: Linear equations only. (A1.1.2.1.3)</p> <p>Solve real-world and mathematical problems leading to two</p>				
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		linear equations in two variables. (M08.B-E.3.1.5)				
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Month(s): December	Unit 7
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Create linear equations from multiple representations. Determine different rates of change from multiple representations of functions.

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Define, Evaluate, and Compare Functions.</p> <p>Use concepts of functions to model relationships between quantities.</p> <p>Analyze and/or interpret bivariate data in multiple representations.</p>	<p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p> <p>CC.2.2.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations.</p> <p>CC.2.2.HS.C.3 Write functions or sequences that model relationships between two quantities.</p> <p>CC.2.2.HS.C.6 Interpret functions in terms of the situations they model.</p>	<p>Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. (M08.D-S.1.1.3)</p> <p>Make predictions using the equations or graphs of best-fit lines of scatter plots. (A1.2.3.2.3)</p> <p>Represent or interpret functional relationships</p>	<p>How do I find the slope of a line?</p> <p>How do I write the equation for a linear function?</p> <p>How do I use the slope of a line to solve problems?</p> <p>How do I compare linear functions?</p>		<p>Slope Triangle Trend line $y=mx+b$ Rate of change Δx Δy Perpendicular Slope Slope Intercept Form Standard Form Point</p>	<p>Determine the slope of a linear function.</p> <p>Use the slope and a point to create the line equation of the best fit line on a scatter plot.</p> <p>Create a linear function for a given scenario.</p> <p>Use the slope and y-intercept to create a line equation.</p>

	<p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p>	<p>between quantities using tables, graphs, and descriptions. (M08.B-F.2.1.1)</p> <p>Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally. (M08.B-F.2.1.2)</p> <p>Create, interpret, and/or use the equation, graph, or table of a linear function. (A1.2.1.2.1)</p> <p>Apply the concept of linear rate of change (slope) to</p>				
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		<p>solve problems. (A1.2.2.1.2)</p> <p>Compare properties of two functions each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions). (M08.B-F.1.1.2)</p> <p>Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. (M08.B-E.2.1.1)</p> <p>Identify, describe, and/or use constant rates of change. (A1.2.2.1.1)</p>				
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		<p>Write or identify a linear equation when given</p> <ul style="list-style-type: none">• the graph of the line• two points on the line, or• the slope and a point on the line. <p>Note: Linear equation may be in point-slope, standard, and/or slope-intercept form. (A1.2.2.1.3)</p> <p>Determine the slope and/or y-intercept represented by a linear equation or graph. (A1.2.2.1.4)</p> <p>Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical</p>				
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		line in the coordinate plane. (M08.B-E.2.1.2)				
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Month(s): January	Unit 8 Supplemental
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Apply properties of rigid transformations. Use the Pythagorean Theorem.

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Understand and apply the Pythagorean Theorem.</p> <p>Solve real-world and mathematical problems involving volume.</p> <p>Demonstrate an understanding of geometric transformations.</p>	<p>CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various tools.</p> <p>CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.</p> <p>CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</p>	<p>M08.C-G.1.1.1 Identify and apply properties of rotations, reflections, and translations.</p> <p>M08.C-G.1.1.2 Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them.</p> <p>M08.C-G.1.1.3 Describe the</p>	<p>How do I identify and apply rigid transformations?</p> <p>What sequence of transformations will create the image?</p> <p>How does the coordinate change under different transformations?</p> <p>Do the three side lengths create a right triangle? How do I use the Pythagorean Theorem to find the distance between two coordinates?</p> <p>How do I use the Pythagorean Theorem to find the missing side of a right triangle?</p> <p>How do I use volume formulas to solve real world problems?</p>		<p>Congruent Converse Counterclockwise Dilation Extrapolate Hypotenuse Image Interpolate Leg Line of Reflection Pre-image Pythagorean Theorem Radius Reflection Rigid Motion Right Triangle Rotation Scale Factor Similar Transformation Translation Volume</p>	<p>Reflect, rotate and translate geometric shapes</p> <p>Describe the transformation used when given two figures.</p> <p>Determine if three side lengths form a right triangle.</p> <p>Find the distance between two points.</p> <p>Use the volume formulas to find the height or radius of a figure.</p>

		<p>effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>M08.C-G.1.1.4 Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.</p> <p>M08.C-G.2.1.1 Apply the converse of the Pythagorean theorem to show a triangle is a right triangle.</p> <p>M08.C-G.2.1.2 Apply the Pythagorean theorem to determine</p>				
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		<p>unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p> <p>M08.C-G.2.1.3 Apply the Pythagorean theorem to find the distance between two points in a coordinate system.</p> <p>M08.C-G.3.1.1 Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems.</p>				
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Month(s): February	Unit 8
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Expressions and Equations

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Identify GCF and LCM for polynomials.</p> <p>Factor Polynomials.</p> <p>Complete problems using scientific notation.</p> <p>Understand Two-Way tables.</p>	<p>CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.</p> <p>CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.</p> <p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p> <p>CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples.</p> <p>CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.</p>	<p>M08.B-E.1.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p> <p>M08.A-N.1.1 Apply concepts of rational and irrational numbers.</p> <p>M08.D-S.1.2 Understand that patterns of association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.</p> <p>A1.1.1.2.1</p>	<p>How do I factor Trinomials?</p> <p>How do I find the GCF and LCM of polynomials?</p> <p>How do I convert repeating decimals into fractions?</p> <p>How do I construct and interpret a two-way table?</p>		<p>GCF</p> <p>LCM</p> <p>Monomial</p> <p>Binomial</p> <p>Trinomial</p> <p>Polynomial</p> <p>Relative frequency</p> <p>Characteristic</p> <p>Mantissa</p>	<p>Identify the GCF and LCM between two monomials</p> <p>Factor a GCF from a binomial or trinomial</p> <p>Factor trinomials</p> <p>Express large and small numbers in scientific notation</p> <p>Perform operations with scientific notation</p> <p>Express numbers in scientific notation in standard form</p> <p>Create and interpret a two-way table</p> <p>Calculate the relative frequency from a two-way table</p>

		<p>Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.</p> <p>A1.1.1.5.2 Factor algebraic expressions, including difference of squares and trinomials. Note: Trinomials are limited to the form $ax^2 + bx + c$ where a is equal to 1 after factoring out all monomial factors.</p>				
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Month(s): March			Unit 9			
Solve systems of linear inequalities.						
<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
Represent real world problems with	CC.2.1.HS.F.5 Choose a level of accuracy	A1.1.3.1.1 Write or solve compound	How do I write an inequality from a real world problem? How do I graph		Boundary Point Boundary line	Write inequalities from word problems

<p>inequalities.</p> <p>Graph linear inequalities.</p> <p>Solve systems of linear inequalities.</p>	<p>appropriate to limitations on measurement when reporting quantities.</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).</p> <p>A1.1.3.1.2 Identify or graph the solution set to a linear inequality on a number line.</p> <p>A1.1.3.1.3 Interpret solutions to problems in the context of the problem situation. Note: Limit to linear inequalities.</p> <p>A1.1.3.2.1 Write and/or solve a system of linear inequalities using graphing. Note: Limit systems to two linear inequalities.</p> <p>A1.1.3.2.2</p>	<p>inequalities?</p> <p>How do I solve a system of inequalities?</p>		<p>Solution set</p>	<p>Graph solutions on a number line</p> <p>Graph a linear inequality on a graph</p> <p>Write a system of inequalities from a word problem</p> <p>Graph a system of linear inequalities</p>
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		Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear inequalities.				
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Month(s): April to May	Unit 10
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Interpret data representations. Find the probability of compound events. Simplify Radical Expressions

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions & Lesson Essential Question</u>	<u>Concept</u>	<u>Vocabulary</u>	<u>Competencies</u>
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<p>Interpret box and whisker plots</p> <p>Calculate the probability of compound events</p> <p>Factor polynomials</p> <p>Simplify rational algebraic expressions</p>	<p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions</p> <p>CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.</p> <p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p>	<p>A1.2.3.1.1 Calculate and/or interpret the range, quartiles, and interquartile range of data.</p> <p>A1.2.3.2.1 Estimate or calculate to make predictions based on a circle, line, bar graph, measures of central tendency, or other representations.</p> <p>A1.2.3.3.1 Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.</p> <p>A1.1.1.5.2 Factor algebraic expressions,</p>	<p>How do I find the interquartile range?</p> <p>How do I find the probability of a compound event?</p> <p>How do I use shortcuts to factor polynomials quickly?</p> <p>How do I simplify a rational algebraic expression?</p> <p>How do I add or subtract rational algebraic expressions?</p> <p>How do I multiply or divide rational algebraic expressions?</p> <p>How do I calculate the number needed to complete the square?</p>		<p>Box and Whisker plot</p> <p>Quartile</p> <p>Interquartile range</p> <p>Event</p> <p>Outcome</p> <p>Mutually exclusive</p> <p>Difference of squares</p> <p>Perfect square</p>	<p>Construct a scatter plot.</p> <p>Calculate the interquartile range.</p> <p>Calculate the probability of mutually exclusive events.</p> <p>Simplify rational algebraic expressions.</p> <p>Complete the square for a trinomial.</p>
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		<p>including difference of squares and trinomials. Note: Trinomials are limited to the form ax^2+bx+c where a is equal to 1 after factoring out all monomial factors.</p> <p>A1.1.1.5.3 Simplify/reduce a rational algebraic expression.</p>				
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