



Correlation to Common Core State Standards for Mathematics - High School Algebra I (Traditional Pathway)

Common Core State Standards for Mathematics	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
Unit 1: Relationships Between Quantities and Reasoning with Equations		
N.Q.1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
	HA1-362	Solving Work Problems
	HA1-472	Solving Mixture Problems
	HA1-165	Using Equations to Solve Percent Problems
	HA1-170	Solving Percent of Change Problems
	HA1-135	Evaluating Formulas
	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-825	Exponential Growth and Decay
	HA1-805	Applying Algebra Concepts
	HA1-889	Complementary and Supplementary Angles
	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
	HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
N.Q.2. Define appropriate quantities for the purpose of descriptive modeling.	HA1-135	Evaluating Formulas
	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-940	Applications of Quadratic Equations
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	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
	HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
N.Q.3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
	MPA-134	Calculating with Precision, Accuracy, and Significant Digits
A.SSE.1. Interpret expressions that represent a quantity in terms of its context.	HA1-095	Translating Word Phrases into Algebraic Expressions
a. Interpret parts of an expression, such as terms, factors, and coefficients.	HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P .	HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
	HA1-090	Simplifying Expressions Using the Property of -1
	HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
	HA1-825	Exponential Growth and Decay

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A.CED.1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	HA1-104	Translating Word Statements into Equations	
	HA1-150	Writing an Equation to Solve Word Problems	
	HA1-155	Writing an Equation to Solve Consecutive Integer Problems	
	HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems	
	HA1-362	Solving Work Problems	
	HA1-472	Solving Mixture Problems	
	HA1-165	Using Equations to Solve Percent Problems	
	HA1-170	Solving Percent of Change Problems	
	HA1-105	Translating Word Statements into Inequalities	
	HA1-185	Solving Inequalities Using the Addition and Subtraction Properties	
	HA1-190	Solving Inequalities Using the Multiplication and Division Properties	
	HA1-195	Solving Inequalities Using More Than One Property	
	HA1-200	Combined Inequalities	
	HA1-205	Solving Combined Inequalities	
	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time	
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations	
	HA1-960	Real-World Applications of Linear Functions	
	HA1-320	Simplifying Rational Expressions	
	HA1-820	Graphing Exponential Functions	
	A.CED.2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	HA1-402	Translating Among Multiple Representations of Functions
HA1-398		Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point	
HA1-401		How Variations of "m" and "b" Affect the Graph of $y = mx + b$	
HA1-405		Determining an Equation of a Line Given the Slope and Coordinates of One Point	
HA1-410		Determining an Equation of a Line Given the Coordinates of Two Points	
HA1-395		Finding the Equation of a Line Parallel or Perpendicular to a Given Line	
HA1-950		Graphing Absolute Value Functions	
HA1-955		Analyzing Linear Functions	
HA1-455		Solving Systems of Linear Equations by Graphing	
HA1-475		Graphing the Solution Set of a System of Linear Inequalities	
A.CED.3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	HA1-104	Translating Word Statements into Equations	
	HA1-150	Writing an Equation to Solve Word Problems	
	HA1-155	Writing an Equation to Solve Consecutive Integer Problems	
	HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems	
	HA1-362	Solving Work Problems	
	HA1-165	Using Equations to Solve Percent Problems	
	HA1-170	Solving Percent of Change Problems	
	HA1-105	Translating Word Statements into Inequalities	
	HA1-185	Solving Inequalities Using the Addition and Subtraction Properties	
	HA1-190	Solving Inequalities Using the Multiplication and Division Properties	
	HA1-195	Solving Inequalities Using More Than One Property	
	HA1-200	Combined Inequalities	
	HA1-205	Solving Combined Inequalities	
	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time	
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations	
	HA1-960	Real-World Applications of Linear Functions	
	A.CED.4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R.	HA1-135	Evaluating Formulas

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	HA1-175	Solving Literal Equations
A.REI.1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	HA1-115	Using the Addition and Subtraction Properties for Equations
	HA1-120	Using the Multiplication and Division Properties for Equations
	HA1-124	Using a Concrete Model to Solve One- and Two-Step Equations
	HA1-125	Solving Equations Using More Than One Property
	HA1-140	Solving Equations by Combining Like Terms
	HA1-144	Using a Concrete Model to Solve Equations with Variables on Both Sides
	HA1-145	Solving Equations with Variables on Both Sides
	HGM-035	Using Deductive Reasoning: Algebraic Proof
	HA1-449	Applying Inductive and Deductive Reasoning
A.REI.3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	HA1-115	Using the Addition and Subtraction Properties for Equations
	HA1-120	Using the Multiplication and Division Properties for Equations
	HA1-124	Using a Concrete Model to Solve One- and Two-Step Equations
	HA1-125	Solving Equations Using More Than One Property
	HA1-140	Solving Equations by Combining Like Terms
	HA1-144	Using a Concrete Model to Solve Equations with Variables on Both Sides
	HA1-145	Solving Equations with Variables on Both Sides
	HA1-180	Graphing Equations and Inequalities on the Number Line
	HA1-185	Solving Inequalities Using the Addition and Subtraction Properties
	HA1-190	Solving Inequalities Using the Multiplication and Division Properties
	HA1-195	Solving Inequalities Using More Than One Property
	HA1-200	Combined Inequalities
	HA1-205	Solving Combined Inequalities
Unit 2: Linear and Exponential Relationships		
N.RN.1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.	HA1-492	Simplifying Square and Cube Roots
N.RN.2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.	HA1-492	Simplifying Square and Cube Roots
	HA1-480	Finding the Square Roots of Rational Numbers
	HA1-490	Simplifying Square Roots
A.REI.5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	HA1-465	Solving Systems of Linear Equations by the Addition/Subtraction Method
	HA1-470	Solving Systems of Linear Equations by the Multiply/Add/Subtract Method
A.REI.6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	HA1-455	Solving Systems of Linear Equations by Graphing
	HA1-460	Solving Systems of Linear Equations by the Substitution Method
	HA1-465	Solving Systems of Linear Equations by the Addition/Subtraction Method
	HA1-470	Solving Systems of Linear Equations by the Multiply/Add/Subtract Method
	HA1-806	Solving Systems of Linear Equations Using the Graphing Calculator
A.REI.10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	HA1-375	Identifying Solutions of Equations in Two Variables
	HA1-380	Graphing Linear Equations
A.REI.11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	HA1-382	Solving Linear Equations Using the Graphing Calculator

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A.REI.12. Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	HA1-415	Graphing Linear Inequalities with Two Variables
	HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
	HA1-475	Graphing the Solution Set of a System of Linear Inequalities
F.IF.1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.	HA1-436	Identifying Relations
	HA1-437	Identifying Relations as Functions
	HA1-438	Finding the Domain and Range of Functions
	HA1-439	Using Function Notation
	HA1-402	Translating Among Multiple Representations of Functions
F.IF.2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	HA1-439	Using Function Notation
F.IF.4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-955	Analyzing Linear Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-820	Graphing Exponential Functions
	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
F.IF.5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	HA1-437	Identifying Relations as Functions
	HA1-438	Finding the Domain and Range of Functions
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
F.IF.6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	HA1-955	Analyzing Linear Functions
	HA1-960	Real-World Applications of Linear Functions
F.IF.7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.		
a. Graph linear and quadratic functions and show intercepts, maxima, and minima.	HA1-380	Graphing Linear Equations
	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
	HA1-398	Graphing Linear Equations Using Slope and y -Intercept or Slope and a Point
	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-955	Analyzing Linear Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	HA1-820	Graphing Exponential Functions
F.IF.9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time

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	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-402	Translating Among Multiple Representations of Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-820	Graphing Exponential Functions
F.BF.1. Write a function that describes a relationship between two quantities.		
a. Determine an explicit expression, a recursive process, or steps for calculation from a context.	HA1-402	Translating Among Multiple Representations of Functions
	HA1-447	Identifying Number Patterns
	HA1-448	Finding the nth Term of a Pattern
	MPA-270	Generating Algebraic Expressions from Patterns of Models
	HA1-820	Graphing Exponential Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-955	Analyzing Linear Functions
b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	HA1-945	Real-World Applications of Quadratic Functions
	HA1-825	Exponential Growth and Decay
F.BF.2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	HA1-447	Identifying Number Patterns
	HA1-448	Finding the nth Term of a Pattern
F.BF.3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
F.LE.1. Distinguish between situations that can be modeled with linear functions and with exponential functions.	HA1-820	Graphing Exponential Functions
a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	HA1-892	Data Analysis Using the Graphing Calculator
b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	HA1-960	Real-World Applications of Linear Functions
	HA1-820	Graphing Exponential Functions
c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	HA1-820	Graphing Exponential Functions
	HA1-825	Exponential Growth and Decay
F.LE.2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	HA1-892	Data Analysis Using the Graphing Calculator
	HA1-960	Real-World Applications of Linear Functions
	HA1-820	Graphing Exponential Functions
F.LE.3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	HA1-820	Graphing Exponential Functions
	HA1-825	Exponential Growth and Decay
	HA1-892	Data Analysis Using the Graphing Calculator

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F.LE.5. Interpret the parameters in a linear or exponential function in terms of a context.	HA1-955	Analyzing Linear Functions
	HA1-820	Graphing Exponential Functions
Unit 3: Descriptive Statistics		
S.ID.1. Represent data with plots on the real number line (dot plots, histograms, and box plots).	MPA-094	Interpreting and Constructing Line Plots
	MPA-096	Constructing Stem-and-Leaf Plots
	MPA-097	Constructing Box-and-Whisker Plots
	MPA-131	Interpreting and Creating Histograms
	MPA-132	Interpreting and Creating Scatterplots
S.ID.2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	HA1-540	Finding the Mean, Median, and Mode from Data and Frequency Distribution Tables
	HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
	MPA-097	Constructing Box-and-Whisker Plots
	HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
S.ID.3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	HA1-885	Histograms and the Normal Distribution
S.ID.5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	HA1-545	Using Frequency Tables
	HA1-965	Determining the Best-Fitting Line
S.ID.6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	MPA-132	Interpreting and Creating Scatterplots
	HA1-605	Interpreting the Correlation Coefficient of a Linear Fit
	HA1-965	Determining the Best-Fitting Line
a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.	HA1-892	Data Analysis Using the Graphing Calculator
b. Informally assess the fit of a function by plotting and analyzing residuals.	HA1-605	Interpreting the Correlation Coefficient of a Linear Fit
	HA1-965	Determining the Best-Fitting Line
c. Fit a linear function for a scatter plot that suggests a linear association.	MPA-132	Interpreting and Creating Scatterplots
	HA1-965	Determining the Best-Fitting Line
S.ID.7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	MPA-132	Interpreting and Creating Scatterplots
	HA1-965	Determining the Best-Fitting Line
	HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
S.ID.8. Compute (using technology) and interpret the correlation coefficient of a linear fit.	HA1-605	Interpreting the Correlation Coefficient of a Linear Fit
	HA1-965	Determining the Best-Fitting Line
S.ID.9. Distinguish between correlation and causation.	HA1-605	Interpreting the Correlation Coefficient of a Linear Fit
Unit 4: Expressions and Equations		
A.SSE.1. Interpret expressions that represent a quantity in terms of its context.	HA1-095	Translating Word Phrases into Algebraic Expressions
a. Interpret parts of an expression, such as terms, factors, and coefficients.	HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P .	HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
	HA1-090	Simplifying Expressions Using the Property of -1
	HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
A.SSE.2. Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.	HA1-271	Factoring Trinomials and the Differences of Squares Using Algebra Tiles
	HA1-275	Factoring the Difference Between Two Squares and Perfect Trinomial Squares

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A.SSE.3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	HA1-270	Factoring the Greatest Common Monomial Factor from a Polynomial
a. Factor a quadratic expression to reveal the zeros of the function it defines.	HA1-275	Factoring the Difference Between Two Squares and Perfect Trinomial Squares
b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	HA1-276	Factoring Sums and Differences of Cubes
c. Use the properties of exponents to transform expressions for exponential functions. For example the expression $1.15t$ can be rewritten as $(1.151/12)12t \approx 1.01212t$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.	HA1-280	Factoring $x^2 + bx + c$ When c is Greater Than Zero
	HA1-285	Factoring $x^2 + bx + c$ When c is Less Than Zero
	HA1-290	Factoring $ax^2 + bx + c$
	HA1-291	Factoring Quadratic Expressions Using the Graphing Calculator
	HA1-295	Factoring by Removing a Common Factor and Grouping
	HA1-300	Factoring a Polynomial Completely
	HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
	HA1-530	Solving Quadratic Equations by Completing the Square
	HA1-535	Developing the Quadratic Formula and Using it to Solve Quadratic Equations
	HA1-820	Graphing Exponential Functions
A.APR.1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	HA1-220	Identifying and Multiplying Monomials
	HA1-225	Dividing Monomials and Simplifying Expressions Having an Exponent of Zero
	HA1-230	Raising a Monomial or Quotient of Monomials to a Power
	HA1-240	Identifying the Degree of Polynomials and Simplifying by Combining Like Terms
	HA1-245	Adding and Subtracting Polynomials
	HA1-920	Simplifying Algebraic Expressions Using the Distributive Property
	HA1-255	Multiplying Two Binomials Using the FOIL Method
	HA1-260	Squaring a Binomial and Finding the Product of a Sum and Difference
A.CED.1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	HA1-104	Translating Word Statements into Equations
	HA1-150	Writing an Equation to Solve Word Problems
	HA1-155	Writing an Equation to Solve Consecutive Integer Problems
	HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
	HA1-362	Solving Work Problems
	HA1-165	Using Equations to Solve Percent Problems
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	HA1-105	Translating Word Statements into Inequalities
	HA1-185	Solving Inequalities Using the Addition and Subtraction Properties
	HA1-190	Solving Inequalities Using the Multiplication and Division Properties
	HA1-195	Solving Inequalities Using More Than One Property
	HA1-200	Combined Inequalities
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	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-960	Real-World Applications of Linear Functions
A.CED.2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	HA1-402	Translating Among Multiple Representations of Functions
	HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
	HA1-405	Determining an Equation of a Line Given the Slope and Coordinates of One Point
	HA1-410	Determining an Equation of a Line Given the Coordinates of Two Points
	HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
	HA1-950	Graphing Absolute Value Functions

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	HA1-955	Analyzing Linear Functions
	HA1-455	Solving Systems of Linear Equations by Graphing
	HA1-475	Graphing the Solution Set of a System of Linear Inequalities
A.CED.4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .	HA1-135	Evaluating Formulas
	HA1-175	Solving Literal Equations
A.REI.4. Solve quadratic equations in one variable.		
a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.	HA1-530	Solving Quadratic Equations by Completing the Square
	HA1-535	Developing the Quadratic Formula and Using it to Solve Quadratic Equations
b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .	HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
	HA1-305	Solving Polynomial Equations by Factoring
	HA1-530	Solving Quadratic Equations by Completing the Square
	HA1-535	Developing the Quadratic Formula and Using it to Solve Quadratic Equations
A-REI.7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.	HA1-537	Solving Systems of Linear and Nonlinear Equations
Unit 5: Quadratic Functions and Modeling		
N.RN.3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
F.IF.4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-536	Solving Quadratic Equations Using the Graphing Calculator
F.IF.5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	HA1-437	Identifying Relations as Functions
	HA1-438	Finding the Domain and Range of Functions
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
F.IF.6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	HA1-955	Analyzing Linear Functions
	HA1-960	Real-World Applications of Linear Functions
	HA1-450	Solving Problems Involving Direct Variation
	HA1-453	Solving Problems Involving Inverse Variation
	HA1-892	Data Analysis Using the Graphing Calculator
F.IF.7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting

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	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-536	Solving Quadratic Equations Using the Graphing Calculator
a. Graph linear and quadratic functions and show intercepts, maxima, and minima.	HA1-380	Graphing Linear Equations
	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
	HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-955	Analyzing Linear Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	HA1-887	Applications of Absolute Value, Step, and Constant Functions
	HA1-950	Graphing Absolute Value Functions
F.IF.8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.		
a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.	HA1-820	Graphing Exponential Functions
F.IF.9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
	HA1-402	Translating Among Multiple Representations of Functions
	HA1-935	Analyzing Graphs of Quadratic Functions
	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
F.BF.1. Write a function that describes a relationship between two quantities.	HA1-935	Analyzing Graphs of Quadratic Functions
a. Determine an explicit expression, a recursive process, or steps for calculation from a context.	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	HA1-940	Applications of Quadratic Equations
	HA1-945	Real-World Applications of Quadratic Functions
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations

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F.BF.3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
	HA1-927	Graphing $f(x) = ax^2$ Using Dilations
	HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
	HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
	HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
	HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
F.BF.4. Find inverse functions.		
a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. For example, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.	HA2-443	Finding the Inverses of Linear and Quadratic Functions
F.LE.3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	HA1-820	Graphing Exponential Functions
	HA1-892	Data Analysis Using the Graphing Calculator

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra

HGM - Geometry

Note: The High School Algebra I Standards-Traditional Pathway was taken from Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards, September 2010.