Algebra I

Timeline/ Marking Period	Cur. Standards & Benchmarks-Essential Questions or Unit	Learning Targets	Vocabulary	Assessment
August/ September	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. 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.* 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	• Write or point to the coefficient of a variable in an expression • Write or point to the power of a polynomial expression • Tell why an expression is a quadratic expression • Explain the meaning of a fractional exponent • Determine the root of the rational exponential expression • Represent an expression with a rational exponent, given a real-life situation • Write or describe a real-life situation, given a rational exponential expression • Solve a simple equations using appropriate steps • Recognize correct inverse operations • Use the correct inverse operations • Use order of operations to solve equations • Demonstrate or prove why an answer is correct • Recognize and use the appropriate properties of addition and multiplication to justify steps in solving equations • Given a problem situation, represent it with an equation • Given an equation, write a scenario to represent it.	Expression, terms, factors, coefficient, exponent, rational exponent, distributive property, associative property, commutative property, like terms, combining like terms, factor an expression Addition property of equality, subtraction property of equality, division property of equality, multiplication property of equality, distributive property, additive inverse,	Daily Work Quizzes Test Notebook

	argument to justify a solution method. A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	• Solve linear equations of one designated variable, including those with letters as coefficients • Utilize the four properties of equality to maintain the balance of an equation • Apply the properties of numbers • Solve inequalities of one variable and explain the steps • Model the solution set of inequalities on a number line • Given a story, or real-world situation, I can model it as a linear equation or an inequality • Given an equation, or inequality, develop a representative story	multiplicative inverse. Linear equations, linear inequalities, solve equations and inequalities, coefficients, commutative property, associative property, distributive property, inverse property, identity property	
September & October	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)*.	• Determine whether a relation is a function through the use of comparing ordered pairs, by use of a table, by mapping, or by creating a graph • Demonstrate how the use of the vertical line test can show whether a particular graph is a function • Determine the domain and range of a function given a set of ordered pairs, a table, or a graph	Function, domain, range, element, function notation, evaluate, sequences, output of the function, input, arithmetic sequence, geometric sequence	Test Quiz Written Work

	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. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n)+ f(n-1) for n ≥ 1.* 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.*	• Use function notation to represent data represented by a given domain and range • Calculate the output value of a function given an input value • Determine relevant domain and range for given real-life situation • Write a variable expression that represents a given sequence • Use a variable expression representation of sequence to write the sequence using function notation • Determine if a sequence is arithmetic or geometric • Tell whether the slope of two lines are positive, negative, zero or undefined - given the equations, graphs, tables, or verbal descriptions • Tell whether an exponential relationship indicates growth or decay - given the equations, graphs, tables, or verbal descriptions	standard form of a linear w=equation, point-slope form of a linear equation,	

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			standard form	
October/ November	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.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for	• Write linear and exponential equations in one variable given information in a real-life situation • Write linear inequalities in one variable given information of a real-life situation • Manipulate the one variable equation to solve for the unknown using appropriate steps • Explain the solution set for a one variable inequality • Draw a visual representation of an equation related to a real-life situation complete with appropriate labels. • Write equation in two or more variables given information in a real-life situation • Manipulate the two or more variable equation to solve for the specified unknown using appropriate steps • Rewrite an equation to solve for the specified unknown • Draw an appropriate representation of the data given the units • Write an appropriate viewing window to model given data • Recognize rate of change and explain the meaning • Create a recursive expression that represents a real world problem	Equations, solve equations, linear functions, quadratic functions, rational functions, exponential functions, coordinate axes, model, formula, context of the problem, m(symbol of slope), b (symbol of y-intercept), independent variable, dependent variable, no slope/undefined slope, leading coefficient, bivariate data, domain, range, asymptotes, standard form, vertex form	Test Quiz Written Work

	calculation from a context. 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.* 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. 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 an initial condition for a functional relationship and explain Its meaning • Given an initial condition and a rate of change, I can create a Recursive expression. • Given a recursive expression I can create a story to model the expression • Combine functions using arithmetic operations; i.e. F(h) = g(h) + j(h) • Make a frequency table, given data in a scatter-plot of other format • Determine the mean, median & mode given a frequency table • Recognize and explain the associations and trends represented by the data in a frequency table	Function, expression, recursive, simplified equation, combine like terms, arithmetic sequence, geometric sequence Categorical data, frequency tables, central tendencies, joint relative frequencies , marginal relative frequencies, conditional	

	Recognize possible associations and trends in the data. S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	• Use a frequency table to create a graph • Explain the relationship of the data and how the variables relate to each other based on whether a linear or non-linear graph • Recognize and explain why a given set of data represents a linear or exponential function • Use a function and its graph to interpolate additional data to solve real-life problems • Informally interpret the correlation of the fit a function by studying the relationship of data points plotted on a coordinate plane • Draw a line-of-best-fit to represent a "data cloud" or scatter-plot • Use the correlation coefficient to decide appropriateness of a linear model • Use technology to graph a line-of-best-fit	relative frequencies, scatter plot, function, linear models, exponential models, quadratic models, correlation coefficient, mean, median, mode, interpolate, line-of-best-fit, line-of-best-fit	
	S.ID.7 Interpret the slope (rate of change) and the intercept constant term) of a linear model in the context of the data. S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.	• Explain the meaning of the slope and y-intercept in relation to the two variables, given an equation in slope-intercept form and related graph with variables and units • Use technology to compute a linear correlation coefficient • Use the correlation coefficient to determine if a line is a good model for the data • Use the correlation coefficient to determine if the data has a positive or negation correlation	Slope, y-intercept, coordinate plane, ordered pairs, plotting points, y=mx+b, causal relationship, correlation coefficient , correlation, causation	

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	S.ID.9 Distinguish between correlation and causation.	• Identify when an obvious causation does not exist • Create real-life experiment to represent how the correlation change of one variable affects another variable but that the one may not have a causal relationship to the other		
December	A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	• List an appropriate set of possible values for the domain, given a real-life situation • Write a real-life situation, given a set of constraints • List appropriate solutions displayed by the graph of an inequality • Solve linear equations of one designated variable, including those with letters as coefficients • Utilize the four properties of equality to maintain the balance of an equation • Apply the properties of numbers • Solve inequalities of one variable and explain the steps • Model the solution set of inequalities on a number line • Given a story, or real-world situation, I can model it as a linear equation or an inequality • Given an equation, or inequality, develop a representative story	Equations, solve equations, linear functions, quadratic functions, Linear equations, linear inequalities, coefficients, commutative property, associative property, distributive property, inverse property,	Lab report Test Quiz Written Work Notebook
December /January	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations*	• Write linear and exponential equations in one variable given information in a real-life situation • Write linear inequalities in one variable given information of a real-life situation • Manipulate the one variable equation to solve for the unknown using appropriate steps	Equations, solve equations, linear functions, quadratic	Test Quiz

January	*arising from linear and quadratic functions, and simple rational and exponential functions.* 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. A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. 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*	• Explain the solution set for a one variable inequality • Solve a system of equations using combinations • Solve a system of equations using substitution • Write a system of equations to solve a given problem situation • Prove that a particular answer is or is not correct • Solve a system of equations by graphing • Solve a system of equations using technology • Write a system of equations to solve a given problem situation • Prove if a particular answer is correct • Demonstrate and explain the process of using the substitution method to solve the system algebraically (between linear and quadratic equations) • Demonstrate to solution of a system of equation by graphing (between linear and quadratic equations) • Demonstrate how to use a graphing calculator to determine the solution(s) to a system (between linear and quadratic equations) • Create a system of equations to solve a problem situation (between linear and quadratic equations)	functions, rational functions, exponential functions, coordinate axes, independent variable, dependent variable, no slope/undefined slope, domain, range, asymptotes, standard form, Solutions, linear equations in two variables, one solution (ordered pair), no solution, infinitely many solutions, system of equations, coinciding lines, parallel lines, intersecting lines, solve a system using combinations (Addition and Elimination), system using substitution	Written Work Notebook

	the line y = –3x and the circle *x2 + y2 = 3*.	• Prove whether a particular solution works for a given system of equations (between linear and quadratic equations)	System of linear equations, system of quadratic equations	
February	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 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.* N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents. A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they	• Explain the meaning of a rational exponent through the use of the properties of exponents. • Demonstrate how a radical can be written in exponential form. • Rewrite a radical expression using a rational exponent. • Rewrite a rational exponent expression as a radical. • Demonstrate that the rules of exponents also work for rational exponents. • Simplify an expression by combining like terms • Circle terms that are alike • Use the distributive, associative, and/or commutative properties to explain combining the like terms of a polynomial expression • Explain and demonstrate how to add two or more polynomial expressions • Explain and demonstrate how to subtract two polynomial expressions	Rational exponent, integer exponent, exponent, base, rational number, radical, square roots, cube roots, radical symbol Polynomials, closed under the operations of addition, subtraction,	Test Quiz Written Work

	are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. A.SSE.2 Use the structure of an expression to identify ways to rewrite it. *For example, see x4 – y4 as (x2)2 – (y2)2, thus recognizing it as a difference of squares that can be factored as (x2 – y2)(x2 + y2).*	• Explain and demonstrate how multiply two or more polynomial expressions • Demonstrate and explain how to factor a difference of squares • Take a factored form of an expression and write a simplified expression	and multiplication, polynomial standard form Expression, terms, factors, coefficient, exponent, rational exponent,	
March	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. b. Solve quadratic	• Find the x-intercepts for the equation and determine the zeros of the function • Demonstrate how to solve an equation by using the method of completing the square • Apply completing the square to a projectile in motion problem • Demonstrate how to solve quadratic equations by factoring • Demonstrate how to solve quadratic equations using the quadratic formula • Demonstrate how to solve quadratic equations through the process of completing the square and taking the square root of both sides • Derive the quadratic formula from the completing the square format of $(x - p)^2 = q$	Parent quadratic function, axis of symmetry, vertex , intercept form, quadratic equation, discriminant	Lab report Test Quiz Written Work Inquiry Lab

March/ April	equations by inspection (e.g., for *x2 =* 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 ± bi* for real numbers *a* and *b*. 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). 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,	• Demonstrate how using the quadratic function might yield an imaginary number and, when it does, write the solution in the form of *a ± bi* • Identify an exponential equation • Create a table of solutions for a given equation in two variables • Graph a set of solutions for a given equation in two variables • Given a set of data, I can determine its equation • Determine a coordinate is a solution to an equation in two variables • construct a graph on a coordinate plane • Use proper intervals for my graph • How to label my axis for a given data set • Identify the features of a graphing calculator • Use the functions of a graphing calculator • Compare two contract options to determine which one is the best option for a given domain • Find a solution given two functions by using one of the following methods - graphing, creating a table, or using a graphing calculator • Graph an absolute value of a function • Determine which contract would be the best choice, within a given domain • Graph an exponential function	Graph, equation, variable, solution, coordinate plane, x-coordinate, function, linear function, polynomial function, rational function, absolute value function, exponential function, logarithmic function, linear inequality, system of linear inequalities	

	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.★ A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (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.	• Graph a linear inequality • Graph a system of linear inequalities • Identify a given point as a solution or non-solution to a given inequality in determining which half-plane is true • Identify if the line is part of the solution or not • Identify if a given point is a solution or non-solution to a given system of inequalities to determine which corresponding half-plane is true		
April	A.SSE.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines.	• Factor a quadratic expression • Use the factors of the expression to determine the zeros of the function • Explain why the function has zero, one, or two zeros of the function • Write a quadratic function, given a problem situation, and determine the "zeros" to find the values of the function • Write a quadratic function given the zeros of the function • Interpret the graph of a quadratic function and explain how the vertex is a maximum or minimum value	Factor, quadratic expression, zeros of a function 9 (x-intercepts), quadratic in standard form, complete the square, vertex, maximum point,	Lab report Test Quiz Written Work

	b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. 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 ≈ 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*	• Complete the square to factor a quadratic function to determine the maximum or minimum value • Use properties of exponents to transform expressions for exponential functions • Rewrite an expression to reveal and explain properties of the quantity represented, given a problem situation	minimum point, exponential functions, properties of exponents, equivalent form	
May	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)*.	• Determine whether a relation is a function through the use of comparing ordered pairs, by use of a table, by mapping, or by creating a graph • Demonstrate how the use of the vertical line test can show whether a particular graph is a function • Determine the domain and range of a function given a set of ordered pairs, a table, or a graph	Function, domain, range, element, function notation, evaluate, sequences, output of the function, input, arithmetic sequence, geometric sequence	Lab report Test Quiz Written Work Inquiry Lab Project

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May	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. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n)+ f(n-1) for n ≥ 1.* 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;*	• Use function notation to represent data represented by a given domain and range • Calculate the output value of a function given an input value • Determine relevant domain and range for given real-life situation • Write a variable expression that represents a given sequence • Use a variable expression representation of sequence to write the sequence using function notation • Determine if a sequence is arithmetic or geometric • Graph a relationship between two quantities • Determine / interpret the end behavior of the relations between two quantities • Determine / interpret the intercepts of the relationship between two quantities	Function, intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries;	

May	*relative maximums and minimums; symmetries; end behavior; and periodicity.*★ 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.* 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. F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in	• Relate (match) the domain of a function to a graph • Relate (match) a graph to its domain • Determine the quantitative relationship of the function that a domain describes, given a real-world situation (i.e. The age of a car, the value of a car) • Find the rate of change (slope) • Tell when a linear function rises, falls, has a zero slope, or no slope • Tell when an exponential function is growth or decay • Use a graph to estimate the rate of change within a given interval, given a real-world model of a situation (i.e. compound interest; world population)	end behavior; and periodicity, domain, average rate of change, exponential growth function, exponential decay function independent variable dependent variable, positive slope negative slope real number system, no slope/undefined slope slope-intercept form intercepts	

May	simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and 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. b. Use the properties of exponents to interpret	• Draw a graph of a function using a coordinate plane • Input data into appropriate technology to create a graph of a function originally expressed symbolically • Circle the maxima or minima of a graph of a quadratic equation • Draw a graph of a function using a coordinate plane • Input data into technology to create a graph of a function originally expressed symbolically • List the domain of a square root function using its graph • Distinguish between square root, cube root, absolute value and step functions graphs by explaining their key features • Demonstrate how to solve a quadratic by factoring • Demonstrate how to solve a quadratic by completing the square • Visually identify the minimum, maximum, and zeros of the graph of the function • Find the vertex algebraically • Find the axis of symmetry using $x = {}^{-b}/_{2a}$ • Find the axis of symmetry by looking at a graph or table • Find the axis of symmetry by averaging the x-intercepts	tabular form *b* (symbol for y-intercept) domain, range cube root function symbolic form standard form square root negative reciprocal rate of growth rate of decay growth factor decay factor half-life (decay factor) double-life (growth) doubling time asymptote boundary line infinity x-infinity difference of squares completing the square leading coefficient real zeros solution sets zeros of the function discriminate	

May	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.* F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). 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	• Explain the differences between a growth function and a negative function • Translate given data into another representation for comparison. (i.e. tabular to graphical, algebraically to tabular, etc) • Compare vertices between two functions • Compare translations between two functions • Compare the width of the graphs of two functions • Compare the number of real solutions of two functions • Compare orientation of the graphs of the two functions • Compare domain and range of two functions • Use technology to graph quadratic functions and demonstrate the effects of a translation • Identify the value of *k* that caused a given translation • Identify the effect on a graph of a given translation	shift vertical shift horizontal shift tabular pattern parent function Input, output, slope, y-intercept, x-intercept, coordinates, linear function,	

	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.* F.BF.4 Find inverse functions. 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.	• Find the equation of the inverse of a linear function Find the equation of the inverse of a linear function	quadratic function, translation, constant (denoted as k), argument of a linear function	
May	F.LE.1 Distinguish between situations that can be modeled with linear functions and with 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. b. Recognize situations in which one quantity	• Prove a linear function grows by an equal difference over equal intervals algebraically by constructing a table (rate of change) • Prove a linear function grows by an equal difference over equal intervals by graphing (slope) • Prove an exponential function grows by equal factors over equal intervals algebraically by constructing a table • Prove an exponential function grows by equal factors over equal intervals algebraically by graphing (intervals) • Recognize a graph as a linear function by identifying the slope as a constant rate of change.	Exponential functions,	Lab report Test Quiz Written Work Project

	changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. 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). 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. F.LE.5 Interpret the parameters in a linear or exponential function in	• Recognize a table as a linear function by identifying the rate of change as constant. • Recognize a graph as exponential. • Recognize a table as exponential by its equal factors. • Write the general form of a linear equation given a table. • Write the general form of a linear equation given a graph. • Write the general form of a linear equation given a problem situation. • Write the general form of an exponential equation given a table. • Write the general form of an exponential equation given a graph. • Write the general form of an exponential equation given a problem situation. • Compare the graphs of a linear and exponential function to prove an exponential function will exceed the linear function. • Compare the tables of a linear and exponential function to prove an exponential function will exceed the linear function. • Interpret the parameters of a linear function, given a real-world situation • Interpret the parameters of an exponential function, given a real-world situation	growth factor, decay factor, base, exponent, function, linear functions , slope, constant rate of change, y-intercept, arithmetic sequences, geometric sequences, quadratic rate of change Parameters, domain, range, linear	

	terms of a context.		function, exponential function	
May/June	S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). 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. 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).	• Create a dot plot, or scatter plot, and determine the line of best fit • Create a histogram and explain its meaning • Create a box plot, or box and whisker plot, and explain its interpretation • Draw conclusions from a dot plot, histogram, and/or box plot • Calculate the mean of a data set • Calculate the median of a data set • Calculate the standard deviation of a data set • Calculate the interquartile range of a data set • Determine in which cases the mean or median is a better measure of center • Determine in which cases the standard deviation or interquartile range is a better measure of spread • Use appropriate statistics to compare two or more data sets • Interpret how an extreme data point effects a data set • Identify which measure is the most appropriate representation of the center of the data set • Draw a symmetrical distribution of data points • Interpret how an extreme data point effects the spread • Identify which measure is the most appropriate representation of the spread of a data set	Data, dot plots, histograms, box plots, data distribution, measures of central tendencies, median, mean, spread, interquartile range, standard deviation, outliers, symmetrical distribution	