

Standard ID	Standard Text	Edgenuity Lesson Name
<b>N-RN</b>	<b>The Real Number System</b>	
	Extend the properties of exponents to rational exponents.	
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.	Rational Exponents
N-RN.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Rational Exponents
		Zero and Negative Exponents
		Multiply with Like Bases
		Divide with Like Bases
		A Quantity to a Power
		Apply Laws of Exponents
		Simplify Radicals
		Add and Subtract Radicals
		Multiply Radicals
		Divide Radicals
		Operations on Rational and Irrational Numbers
	Use properties of rational and irrational numbers.	
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.	Operations on Rational and Irrational Numbers
<b>N-Q</b>	<b>Quantities</b>	
	Reason quantitatively and use units to solve problems.	
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.	Ratios and Rates
		Using Proportions
		Converting Between Measurement Systems
		Unit Analysis
		Properties of Real Numbers
		Apply Laws of Exponents
		Equations as Mathematical Models
		Simplify Radicals
		Add and Subtract Radicals

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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. <i>(Cont'd.)</i>	Multiply Radicals Divide Radicals Solve Equations Using the Distributive Property Simplify and Solve Equations Translate and Solve Written Statements Literal Equations Model and Solve Problems with Multi-Step Equations The Squaring and Square Root Properties Properties of Inequality Write and Solve Inequalities Two-Step Inequalities Multi-Step Inequalities Compound Inequalities Absolute Value Equations in One Variable Absolute Value Inequalities in One Variable Multi-Step Absolute Value Inequalities in One Variable Model and Solve Problems with Absolute Value Inequalities Function Notation Function Operations Graph Functions Write Function Rules Standard Form of a Linear Equation Graph Linear Inequalities Write Equations in Slope-Intercept Form Point-Slope Form Equations of Lines Solve a Linear System Graphically Solve a Linear System by Substitution Solve a Linear System by Elimination

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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. <i>(Cont'd.)</i>	Model and Solve Problems with Linear Systems Systems of Linear Inequalities Scatterplots Add and Subtract Polynomials Multiply and Divide by a Monomial Multiply Polynomials Special Products Divide Polynomials Simplify Polynomial Expressions The Greatest Common Factor Factor by Grouping Factor Trinomials with Leading Coefficient of One Factor Trinomials with a Leading Coefficient Other than One Special Cases Factoring Polynomials Quadratic Equations in Standard Form Intercepts and Zeros Quadratic Equations in Vertex Form Convert Between Standard and Vertex Form Making Connections: Daredevil Danny Model Problems with Quadratic Functions Solve by Factoring Irrational Roots Model and Solve Problems with Quadratics Exponential Functions Growth and Decay Parent Functions Shifts of Functions Scatterplots

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N-Q.2	Define appropriate quantities for the purpose of descriptive modeling.	Ratios and Rates Using Proportions Converting Between Measurement Systems Unit Analysis Mathematical Modeling Equations as Mathematical Models Model and Solve Problems with Multi-Step Equations Model and Solve Problems with Absolute Value Inequalities Graph Linear Inequalities Model and Solve Problems with Linear Systems Model Problems with Quadratic Functions Model and Solve Problems with Quadratics Scatterplots
N-Q.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Precision and Significant Digits Solving an Equation Variability Scatterplots Measures of Central Tendency Scatterplots

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A-SSE	<b>Seeing Structure in Expressions</b>	
	Interpret the structure of expressions	
A-SSE.1	Interpret expressions that represent a quantity in terms of its context.	
A-SSE.1.a	Interpret parts of an expression, such as terms, factors, and coefficients.	
		Use Variables to Represent Numbers
		Properties of Real Numbers
		Simplify Expressions
		Zero and Negative Exponents
		Multiply with Like Bases
		Divide with Like Bases
		A Quantity to a Power
		Apply Laws of Exponents
		Function Notation
		Add and Subtract Polynomials
		Multiply and Divide by a Monomial
		Multiply Polynomials
		Simplify Polynomial Expressions
		The Greatest Common Factor
		Intercepts and Zeros
		Quadratic Equations in Vertex Form
		Laws of Exponents
		Simplifying Polynomial Expressions

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A-SSE.1.b	Interpret complicated expressions by viewing one or more of their parts as a single entity.	Properties of Real Numbers Simplify Expressions Zero and Negative Exponents Multiply with Like Bases Divide with Like Bases A Quantity to a Power Apply Laws of Exponents Literal Equations Add and Subtract Polynomials Simplify Polynomial Expressions Factor by Grouping Factor Trinomials with a Leading Coefficient Other than One Factoring Polynomials Quadratic Equations in Standard Form Intercepts and Zeros Quadratic Equations in Vertex Form Exponential Functions Rewriting Exponential Functions

Standard ID	Standard Text	Edgenuity Lesson Name
A-SSE.2	Use the structure of an expression to identify ways to rewrite it.	Rational Exponents Properties of Real Numbers Simplify Expressions Zero and Negative Exponents Multiply with Like Bases Divide with Like Bases A Quantity to a Power Apply Laws of Exponents Simplify Radicals Add and Subtract Radicals Multiply Radicals Divide Radicals Add and Subtract Polynomials Multiply and Divide by a Monomial Multiply Polynomials Special Products Divide Polynomials Simplify Polynomial Expressions The Greatest Common Factor Factor by Grouping Factor Trinomials with Leading Coefficient of One Factor Trinomials with a Leading Coefficient Other than One Special Cases Factoring Polynomials Intercepts and Zeros Laws of Exponents Simplifying Polynomial Expressions Rewriting Exponential Functions

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A-SSE.3	Write expressions in equivalent forms to solve problems Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	
A-SSE.3.a	Factor a quadratic expression to reveal the zeros of the function it defines.	Factor Trinomials with Leading Coefficient of One Factor Trinomials with a Leading Coefficient Other than One Special Cases Factoring Polynomials Intercepts and Zeros Model Problems with Quadratic Functions Solve by Factoring Complete the Square Model and Solve Problems with Quadratics
A-SSE.3.b	Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	Convert Between Standard and Vertex Form Complete the Square
A-SSE.3.c	Use the properties of exponents to transform expressions for exponential functions.	Rational Exponents Growth and Decay Factors Exponential Functions Use Exponential Functions Population Growth Equations of Exponential Functions Zero and Negative Exponents Multiply with Like Bases Divide with Like Bases A Quantity to a Power Apply Laws of Exponents Exponential Functions Growth and Decay Rewriting Exponential Functions
A-SSE.4	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.	



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<b>A-APR</b>	<b>Arithmetic with Polynomials and Rational Expressions</b>	
	Perform arithmetic operations on polynomials	
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.	
		Add and Subtract Polynomials
		Multiply and Divide by a Monomial
		Multiply Polynomials
		Special Products
		Divide Polynomials
		Simplify Polynomial Expressions
		Laws of Exponents
		Simplifying Polynomial Expressions
	Understand the relationship between zeros and factors of polynomials	
A-APR.2	Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number $a$ , the remainder on division by $x - a$ is $p(a)$ , so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$ .	
A-APR.3	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	
		Parabolas
		Intercepts and Zeros
	Use polynomial identities to solve problems	
A-APR.4	Prove polynomial identities and use them to describe numerical relationships.	
		Special Products
		Special Cases
A-APR.5	Know and apply the Binomial Theorem for the expansion of $(x + y)$ to the $n$ power in powers of $x$ and $y$ for a positive integer $n$ , where $x$ and $y$ are any numbers, with coefficients determined for example by Pascal's Triangle.	
	Rewrite rational expressions	
A-APR.6	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$ , where $a(x)$ , $b(x)$ , $q(x)$ , and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$ , using inspection, long division, or, for the more complicated examples, a computer algebra system.	

Standard ID	Standard Text	Edgenuity Lesson Name
A-APR.7	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	Add and Subtract Polynomials Multiply and Divide by a Monomial Multiply Polynomials Special Products Simplify Polynomial Expressions

Standard ID	Standard Text	Edgenuity Lesson Name
A-CED	<b>Creating Equations</b> Create equations that describe numbers or relationships	
A-CED.1	Create equations and inequalities in one variable and use them to solve problems.	Problem Solving: Write an Equation Mathematical Modeling Solving an Equation Slope-Intercept Form Equations of Exponential Functions Use Variables to Represent Numbers Two-Step Equations Equations with Variables on Both Sides Equations as Mathematical Models Solve Equations Using the Distributive Property Simplify and Solve Equations Translate and Solve Written Statements Model and Solve Problems with Multi-Step Equations Write and Solve Inequalities Two-Step Inequalities Multi-Step Inequalities Compound Inequalities Model and Solve Problems with Absolute Value Inequalities Standard Form of a Linear Equation Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Model and Solve Problems with Linear Systems Quadratic Equations in Vertex Form

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A-CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Graphing Linear Functions Mathematical Modeling Solving an Equation Slope-Intercept Form Parabolas Use Exponential Functions Population Growth Equations of Exponential Functions Use Variables to Represent Numbers Translate and Solve Written Statements Write Function Rules Standard Form of a Linear Equation Slope Slope-Intercept Form Graph Linear Inequalities Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Scatterplots Quadratic Equations in Standard Form Intercepts and Zeros Quadratic Equations in Vertex Form Model Problems with Quadratic Functions Shifts of Functions Scatterplots Rewriting Exponential Functions

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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.	Graphing Linear Functions Slope-Intercept Form Break-Even Points Equations of Exponential Functions Use Variables to Represent Numbers Translate and Solve Written Statements Write and Solve Inequalities Write Function Rules Standard Form of a Linear Equation Slope-Intercept Form Graph Linear Inequalities Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Model and Solve Problems with Linear Systems Systems of Linear Inequalities Quadratic Equations in Vertex Form
A-CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	Literal Equations Quadratic Equations in Vertex Form

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A-REI	<b>Reasoning with Equations and Inequalities</b> Understand solving equations as a process of reasoning and explain the reasoning	
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.	Mathematical Modeling Solving an Equation Addition and Multiplication Properties of Equality Two-Step Equations Equations with Like Terms Equations with Variables on Both Sides Equations as Mathematical Models Solve Equations Using the Distributive Property Simplify and Solve Equations Translate and Solve Written Statements Model and Solve Problems with Multi-Step Equations The Squaring and Square Root Properties Write Function Rules Standard Form of a Linear Equation Solve by Factoring Complete the Square Model and Solve Problems with Quadratics
A-REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	The Squaring and Square Root Properties

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	Solve equations and inequalities in one variable	
A-REI.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Solving an Equation Addition and Multiplication Properties of Equality Two-Step Equations Equations with Like Terms Equations with Variables on Both Sides Equations as Mathematical Models Solve Equations Using the Distributive Property Simplify and Solve Equations Translate and Solve Written Statements Literal Equations Model and Solve Problems with Multi-Step Equations The Squaring and Square Root Properties Properties of Inequality Write and Solve Inequalities Two-Step Inequalities Multi-Step Inequalities Compound Inequalities Absolute Value Equations in One Variable Absolute Value Inequalities in One Variable Multi-Step Absolute Value Inequalities in One Variable Model and Solve Problems with Absolute Value Inequalities
A-REI.4	Solve quadratic equations in one variable.	
A-REI.4.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.	Convert Between Standard and Vertex Form Complete the Square

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A-REI.4.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 $b$ .	<p>The Squaring and Square Root Properties            Model Problems with Quadratic Functions            Solve by Factoring            Complete the Square            The Quadratic Formula            Irrational Roots            Model and Solve Problems with Quadratics</p>
Solve systems of equations		
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.	<p>Solve a Linear System by Substitution            Solve a Linear System by Elimination            Model and Solve Problems with Linear Systems</p>
A-REI.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	<p>Break-Even Points            Solve a Linear System Graphically            Solve a Linear System by Substitution            Solve a Linear System by Elimination            Model and Solve Problems with Linear Systems</p>
A-REI.7	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.	<p>Model Problems with Quadratic Functions</p>
A-REI.8	Represent a system of linear equations as a single matrix equation in a vector variable.	
A-REI.9	Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension $3 \times 3$ or greater).	



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	Represent and solve equations and inequalities graphically	
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).	Graphing Linear Equations Using Intercepts Graphing Nonlinear Functions Solving an Equation Average Rate of Change Break-Even Points Use Exponential Functions Graph Functions Standard Form of a Linear Equation Slope Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Equations of Lines Solve a Linear System Graphically Quadratic Equations in Standard Form Intercepts and Zeros Exponential Functions Growth and Decay Shifts of Functions Linear Functions
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.	Solving an Equation Break-Even Points Use Exponential Functions Solve a Linear System Graphically Exponential Functions Growth and Decay

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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 Linear Inequalities Systems of Linear Inequalities
<b>F-IF</b>	<b>Interpreting Functions</b> Understand the concept of a function and use function notation	
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 $y = f(x)$ .	Mathematical Modeling Relations and Functions Function Notation Graph 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.	Mathematical Modeling Function Notation Function Operations
F-IF.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	Other Sequences Write Function Rules Arithmetic Sequences Geometric Sequences Recursive Formulas

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	Interpret functions that arise in applications in terms of the context	
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.	<ul style="list-style-type: none"> <li>Graphing Linear Equations Using Intercepts</li> <li>Graphing Nonlinear Functions</li> <li>Exponential Growth and Decay</li> <li>Graphing Linear Functions</li> <li>Mathematical Modeling</li> <li>Solving an Equation</li> <li>Slope-Intercept Form</li> <li>Quadratic Equations</li> <li>Parabolas</li> <li>Use Exponential Functions</li> <li>Population Growth</li> <li>Equations of Exponential Functions</li> <li>Graph Functions</li> <li>Standard Form of a Linear Equation</li> <li>Slope-Intercept Form</li> <li>Write Equations in Slope-Intercept Form</li> <li>Point-Slope Form</li> <li>Parallel Lines</li> <li>Perpendicular Lines</li> <li>Quadratic Equations in Standard Form</li> <li>Intercepts and Zeros</li> <li>Exponential Functions</li> <li>Growth and Decay</li> <li>Shifts of Functions</li> <li>Linear Functions</li> <li>Scatterplots</li> <li>Linear Growth vs. Exponential Growth</li> <li>Comparing Exponential, Linear, and Quadratic Growth</li> </ul>

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F-IF.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	<ul style="list-style-type: none"> <li>Parabolas</li> <li>Relations and Functions</li> <li>Graph Functions</li> <li>Slope</li> <li>Intercepts and Zeros</li> <li>Exponential Functions</li> <li>Parent Functions</li> </ul>
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.	<ul style="list-style-type: none"> <li>Average Rate of Change</li> <li>Slope</li> <li>Slope-Intercept Form</li> <li>Write Equations in Slope-Intercept Form</li> <li>Equations of Lines</li> <li>Scatterplots</li> <li>Growth and Decay</li> <li>Linear Growth vs. Exponential Growth</li> <li>Comparing Exponential, Linear, and Quadratic Growth</li> </ul>

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	Analyze functions using different representations	
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.	
F-IF.7.a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	Graphing Linear Equations Using Intercepts Graphing Nonlinear Functions Slope-Intercept Form Quadratic Equations Parabolas Absolute Value Inequalities in One Variable Multi-Step Absolute Value Inequalities in One Variable Graph Functions Standard Form of a Linear Equation Slope Slope-Intercept Form Graph Linear Inequalities Solve a Linear System Graphically Systems of Linear Inequalities Quadratic Equations in Standard Form Intercepts and Zeros Quadratic Equations in Vertex Form Model Problems with Quadratic Functions Model and Solve Problems with Quadratics Parent Functions Shifts of Functions Linear Functions
F-IF.7.b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	Graphing Nonlinear Functions Parent Functions Shifts of Functions
F-IF.7.c	Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	

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F-IF.7.d	Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.	Parent Functions
F-IF.7.e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	Exponential Growth and Decay Exponential Functions Use Exponential Functions Exponential Functions Linear Growth vs. Exponential Growth Comparing Exponential, Linear, and Quadratic Growth
F-IF.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	
F-IF.8.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.	Intercepts and Zeros Quadratic Equations in Vertex Form Convert Between Standard and Vertex Form Model Problems with Quadratic Functions Solve by Factoring Complete the Square Model and Solve Problems with Quadratics
F-IF.8.b	Use the properties of exponents to interpret expressions for exponential functions.	Growth and Decay Factors Exponential Functions Use Exponential Functions Population Growth Equations of Exponential Functions Exponential Functions Growth and Decay Linear Growth vs. Exponential Growth Rewriting Exponential Functions

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F-IF.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Relations and Functions Graph Functions Write Function Rules Standard Form of a Linear Equation Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Scatterplots Convert Between Standard and Vertex Form Model Problems with Quadratic Functions Exponential Functions Parent Functions Shifts of Functions Linear Growth vs. Exponential Growth Comparing Exponential, Linear, and Quadratic Growth

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F-BF	<b>Building Functions</b>	
	Build a function that models a relationship between two quantities	
F-BF.1	Write a function that describes a relationship between two quantities.	
F-BF.1.a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	Slope-Intercept Form Equations of Exponential Functions Use Variables to Represent Numbers Translate and Solve Written Statements Write and Solve Inequalities Function Operations Write Function Rules Standard Form of a Linear Equation Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Scatterplots Quadratic Equations in Vertex Form Making Connections: Daredevil Danny Arithmetic Sequences Geometric Sequences Recursive Formulas
F-BF.1.b	Combine standard function types using arithmetic operations.	Function Operations
F-BF.1.c	Compose functions.	
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.	Other Sequences Arithmetic Sequences Geometric Sequences Recursive Formulas



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	Build new functions from existing functions	
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.	Quadratic Equations Intercepts and Zeros Quadratic Equations in Vertex Form Making Connections: Daredevil Danny Parent Functions Shifts of Functions
F-BF.4	Find inverse functions.	
F-BF.4.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.	Solving an Equation Write Function Rules
F-BF.4.b	Verify by composition that one function is the inverse of another.	
F-BF.4.c	Read values of an inverse function from a graph or a table, given that the function has an inverse.	
F-BF.4.d	Produce an invertible function from a non-invertible function by restricting the domain.	
F-BF.5	Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.	

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F-LE	<b>Linear, Quadratic, and Exponential Models</b>	
	Construct and compare linear, quadratic, and exponential models and solve problems	
F-LE.1	Distinguish between situations that can be modeled with linear functions and with exponential functions.	
F-LE.1.a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	Exponential Growth and Decay Mathematical Modeling Average Rate of Change Slope-Intercept Form Break-Even Points Growth and Decay Factors Exponential Functions Use Exponential Functions Population Growth Equations of Exponential Functions Write Function Rules Standard Form of a Linear Equation Slope Slope-Intercept Form Exponential Functions Growth and Decay
F-LE.1.b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	Average Rate of Change Graph Functions Slope Growth and Decay
F-LE.1.c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Exponential Growth and Decay Growth and Decay Factors Growth and Decay

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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).	Slope-Intercept Form Growth and Decay Factors Equations of Exponential Functions Write Function Rules Standard Form of a Linear Equation Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Parallel Lines Perpendicular Lines Equations of Lines Scatterplots Arithmetic Sequences Geometric Sequences
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.	Linear Growth vs. Exponential Growth Comparing Exponential, Linear, and Quadratic Growth
F-LE.4	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where $a$ , $c$ , and $d$ are numbers and the base $b$ is 2, 10, or $e$ ; evaluate the logarithm using technology.	Equations of Exponential Functions

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	Interpret expressions for functions in terms of the situation they model	
F-LE.5	Interpret the parameters in a linear or exponential function in terms of a context.	Exponential Growth and Decay Growth and Decay Factors Equations as Mathematical Models Model and Solve Problems with Multi-Step Equations Graph Functions Slope-Intercept Form Write Equations in Slope-Intercept Form Point-Slope Form Equations of Lines Exponential Functions Growth and Decay Linear Growth vs. Exponential Growth
<b>S-ID</b>	<b>Interpreting Categorical and Quantitative Data</b>	
	Summarize, represent, and interpret data on a single count or measurement variable	
S-ID.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).	Data Distribution 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.	Data Distribution Variability Measures of Central Tendency
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).	Measures of Central Tendency
S-ID.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	Variability

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Summarize, represent, and interpret data on two categorical and quantitative variables		
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.	Probability and Two-Way Tables
S-ID.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	
S-ID.6.a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data.	Mathematical Modeling Equations of Exponential Functions Scatterplots Growth and Decay
S-ID.6.b	Informally assess the fit of a function by plotting and analyzing residuals.	Scatterplots
S-ID.6.c	Fit a linear function for a scatter plot that suggests a linear association.	Scatterplots
Interpret linear models		
S-ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Mathematical Modeling Average Rate of Change Slope-Intercept Form Slope Slope-Intercept Form Write Equations in Slope-Intercept Form Parallel Lines Perpendicular Lines Equations of Lines Scatterplots Linear Functions
S-ID.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.	Scatterplots
S-ID.9	Distinguish between correlation and causation.	Scatterplots

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<b>S-IC</b>	<b>Making Inferences and Justifying Conclusions</b>	
	Understand and evaluate random processes underlying statistical experiments	
S-IC.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	
S-IC.2	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.	
		Mathematical Modeling
	Make inferences and justify conclusions from sample surveys, experiments, and observational studies	
S-IC.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	
S-IC.4	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	
		Probability and Two-Way Tables
S-IC.5	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	
S-IC.6	Evaluate reports based on data.	
S-CP	<b>Conditional Probability and the Rules of Probability</b>	
	Understand independence and conditional probability and use them to interpret data	
S-CP.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	
		Probability and Two-Way Tables
S-CP.2	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	
		Probability and Two-Way Tables
S-CP.3	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$ , and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	
		Probability and Two-Way Tables
S-CP.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.	
		Probability and Two-Way Tables
S-CP.5	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	
		Probability and Two-Way Tables

Standard ID	Standard Text	Edgenuity Lesson Name
	Use the rules of probability to compute probabilities of compound events in a uniform probability model	
S-CP.6	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	Probability and Two-Way Tables
S-CP.7	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ , and interpret the answer in terms of the model.	
S-CP.8	Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$ , and interpret the answer in terms of the model.	Probability and Two-Way Tables
S-CP.9	Use permutations and combinations to compute probabilities of compound events and solve problems.	