Standard ID	Standard Text	Edgenuity Lesson Name
AI.1.	Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:	
AI.1 (A)	Apply mathematics to problems arising in everyday life, society, and the workplace.	Solving Mixture Problems Solving Rate Problems Writing and Graphing Equations in Two Variables
AI.1 (B)	Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	Geometric Sequences Modeling with Quadratic Functions Performance Task: Daredevil Danny Solving Mixture Problems Solving Rate Problems
AI.1 (C)	Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	Line of Best Fit Regression Models Rewriting Expressions with Radicals Slope-Intercept Form of a Line
AI.1 (D)	Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	Introduction to Functions Slope-Intercept Form of a Line Writing Two-Variable Linear Equations
AI.1 (E)	Create and use representations to organize, record, and communicate mathematical ideas.	Exponential Decay Functions Exponential Growth Functions Introduction to Modeling with Functions Modeling with Systems of Linear Equations Modeling with Systems of Linear Inequalities
AI.1 (F)	Analyze mathematical relationships to connect and communicate mathematical ideas.	Equations of Parallel and Perpendicular Lines Geometric Sequences Introduction to Modeling with Functions Recognizing Patterns

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AI.1 (G)	Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	
		Exponential Growth Functions
		Introduction to Linear Functions
		Introduction to the Quadratic Formula
		Performance Task: Daredevil Danny
		Solving Systems: Introduction to Linear Combinations
AI.2.	Linear functions, equations, and inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to:	
AI.2 (A)	Determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities.	
		Slope-Intercept Form of a Line
		Writing and Graphing Equations in Two Variables
AI.2 (B)	Write linear equations in two variables in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y1 = m(x - x1)$, given one point and the slope and given two points.	
		Writing and Solving Equations in Two
		Writing Two-Variable Linear Equations
AI.2 (C)	Write linear equations in two variables given a table of values, a graph, and a verbal description.	
		Point-Slope Form of a Line
		Slope-Intercept Form of a Line
		Standard Form of a Line
		Writing and Solving Equations in Two Variables
		Writing Two-Variable Linear Equations
AI.2 (D)	Write and solve equations involving direct variation.	
		Special Linear Relationships
AI.2 (E)	Write the equation of a line that contains a given point and is parallel to a given line.	
		Equations of Parallel and Perpendicular Lines
AI.2 (F)	Write the equation of a line that contains a given point and is perpendicular to a given line.	
		Equations of Parallel and Perpendicular Lines

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AI.2 (G)	Write an equation of a line that is parallel or perpendicular to the X or Y axis and determine whether the slope of the line is zero or undefined.	
		Equations of Parallel and Perpendicular Lines
AI.2 (H)	Write linear inequalities in two variables given a table of values, a graph, and a verbal description.	
		Graphing Two-Variable Linear Inequalities
		Modeling with Two-Variable Linear Inequalities
AI.2 (I)	Write systems of two linear equations given a table of values, a graph, and a verbal description.	
		Introduction to Systems of Linear Equations
		Modeling with Systems of Linear Equations
AI.3.	Linear functions, equations, and inequalities. The student applies the mathematical process standards when using graphs of linear functions, key features, and related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:	
AI.3 (A)	Determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y_1 = m(x - x_1)$.	
		Introduction to Linear Functions
		Line of Best Fit
		Slope of a Line
AI.3 (B)	Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems.	
		Introduction to Linear Functions
		Line of Best Fit
		Slope of a Line
AI.3 (C)	Graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems.	
		Point-Slope Form of a Line
		Slope-Intercept Form of a Line
		Standard Form of a Line
AI.3 (D)	Graph the solution set of linear inequalities in two variables on the coordinate plane.	
		Graphing Two-Variable Linear Inequalities
		Modeling with Two-Variable Linear Inequalities
AI.3 (E)	Determine the effects on the graph of the parent function $f(x)= x$ when $f(x)$ is replaced by $af(x)$, $f(x)+ d$, $f(x - c)$, $f(bx)$ for specific values of a, b, c, and d.	
		Slope-Intercept Form of a Line

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AI.3 (F)	Graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist.	
		Solving Systems of Linear Equations: Graphing
AI.3 (G)	Estimate graphically the solutions to systems of two linear equations with two variables in real-world problems.	
		Solving Systems of Linear Equations: Graphing
AI.3 (H)	Graph the solution set of systems of two linear inequalities in two variables on the coordinate plane.	
		Modeling with Systems of Linear Inequalities
		Solving Systems of Linear Inequalities
AI.4.	Linear functions, equations, and inequalities. The student applies the mathematical process standards to formulate statistical relationships and evaluate their reasonableness based on real-world data. The student is expected to:	
AI.4 (A)	Calculate, using technology, the correlation coefficient between two quantitative variables and interpret this quantity as a measure of the strength of the linear association.	
		Strength of Correlation
AI.4 (B)	Compare and contrast association and causation in real-world problems.	
		Strength of Correlation
AI.4 (C)	Write, with and without technology, linear functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.	
		Introduction to Modeling with Functions
		Line of Best Fit
AI.5.	Linear functions, equations, and inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student	
AI.5 (A)	Solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.	
		Solving Linear Equations: Distributive
		Solving Linear Equations: Variable on One Side
		Solving Linear Equations: Variables on Both Sides
		Solving Mixture Problems
		Solving Rate Problems
AI.5 (B)	Solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.	
		Inequalities in One Variable
		Solving One-Variable Inequalities

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AI.5 (C)	Solve systems of two linear equations with two variables for mathematical and real-world problems.	Solving Systems of Linear Equations: Linear Combinations Solving Systems of Linear Equations: Substitution Solving Systems: Introduction to Linear Combinations
AI.6.	Quadratic functions and equations. The student applies the mathematical process standards when using properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations. The student is expected to:	
AI.6 (A)	Determine the domain and range of quadratic functions and represent the domain and range using inequalities.	Introduction to Quadratic Functions Quadratic Functions: Factored Form Quadratic Functions: Standard Form Quadratic Functions: Vertex Form
AI.6 (B)	Write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x)= a(x - h)²+ k), and rewrite the equation from vertex form to standard form (f(x)= ax²+ bx + c).	Modeling with Quadratic Functions Performance Task: Daredevil Danny
AI.6 (C)	Write quadratic functions when given real solutions and graphs of their related equations.	Modeling with Quadratic Functions
AI.7.	Quadratic functions and equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:	
AI.7 (A)	Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry.	Quadratic Functions: Factored Form Quadratic Functions: Standard Form Quadratic Functions: Vertex Form
AI.7 (B)	Describe the relationship between the linear factors of quadratic expressions and the zeros of their associated	Quadratic Equations and their Related Functions

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AI.7 (C)	Determine the effects on the graph of the parent function $f(x)= x^2$ when $f(x)$ is replaced by $af(x)$, $f(x)+ d$, $f(x - c)$, $f(bx)$ for specific values of a, b, c, and d.	Completing the Square Completing the Square (Continued)
AI.8.	Quadratic functions and equations. The student applies the mathematical process standards to solve, with and without technology, quadratic equations and evaluate the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:	
AI.8 (A)	Solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.	Introduction to the Quadratic Formula Solving Quadratic Equations: Completing the Square Solving Quadratic Equations: Completing the Square (Continued) Solving Quadratic Equations: Factoring Solving Quadratic Equations: Quadratic Formula Solving Quadratic Equations: Square Root Property Solving Quadratic Equations: Zero Product Property
AI.8 (B)	Write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.	Introduction to Modeling with Functions Regression Models
AI.9.	Exponential functions and equations. The student applies the mathematical process standards when using properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations and evaluate, with and without technology, the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:	
AI.9 (A)	Determine the domain and range of exponential functions of the form $f(x)= ab^x$ and represent the domain and range using inequalities.	Exponential Decay Functions Exponential Growth Functions

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AI.9 (A)	Determine the domain and range of exponential functions of the form f(x)= ab^x and represent the domain and range using inequalities. *(cont'd)*	
		Reflections of Exponential Functions
		Translations of Exponential Functions
AI.9 (B)	Interpret the meaning of the values of a and b in exponential functions of the form f(x)= ab^x in real-world problems.	
		Exponential Decay Functions
		Exponential Growth Functions
		Vertical Stretches and Shrinks of Exponential Functions
AI.9 (C)	Write exponential functions in the form f(x)= ab^x (where b is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay.	
		Exponential Decay Functions
		Exponential Growth Functions
		Vertical Stretches and Shrinks of Exponential Functions
AI.9 (D)	Graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.	
		Exponential Decay Functions
		Exponential Growth Functions
		Geometric Sequences
		Reflections of Exponential Functions
		Translations of Exponential Functions
		Vertical Stretches and Shrinks of Exponential Functions
AI.9 (E)	Write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems.	
		Introduction to Modeling with Functions
		Regression Models
AI.10.	Number and algebraic methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is	
AI.10 (A)	Add and subtract polynomials of degree one and degree two.	
		Adding and Subtracting Polynomials
AI.10 (B)	Multiply polynomials of degree one and degree two.	
		Multiplying Monomials and Binomials
		Multiplying Polynomials and Simplifying Expressions

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AI.10 (C)	Determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend.	Polynomial Division
AI.10 (D)	Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.	Factoring Polynomials: Double Grouping Factoring Polynomials: GCF
AI.10 (E)	Factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$, including perfect square trinomials of degree two.	Factoring Trinomials: a = 1 Factoring Trinomials: a = 1 (Continued) Factoring Trinomials: a > 1
AI.10 (F)	Decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.	Factoring Polynomials: Difference of Squares
AI.11.	Number and algebraic methods. The student applies the mathematical process standards and algebraic	
AI.11 (A)	Simplify numerical radical expressions involving square roots.	Rewriting Expressions with Radicals The Square Root Function
AI.11 (B)	Simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.	Laws of Exponents Rational Exponents
AI.12.	Number and algebraic methods. The student applies the mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:	
AI.12 (A)	Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function.	Introduction to Functions
AI.12 (B)	Evaluate functions, expressed in function notation, given one or more elements in their domains.	Evaluating Functions Using Function Notation
AI.12 (C)	Identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes.	Geometric Sequences Recognizing Patterns

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AI.12 (D)	Write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.	
		Geometric Sequences
		Recognizing Patterns
		Special Linear Relationships
AI.12 (E)	Solve mathematic and scientific formulas, and other literal equations, for a specified variable.	
		Literal Equations

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