Algebra I | Arizona Mathematics Standards Correlation to *Eureka Math²®*

When the original *Eureka Math®* curriculum was released, it quickly became the most widely used K–5 mathematics curriculum in the country. Now, the Great Minds® teacher–writers have created *Eureka Math²®*, a groundbreaking new curriculum that helps teachers deliver exponentially better math instruction while still providing students with the same deep understanding of and fluency in math. *Eureka Math²* carefully sequences mathematical content to maximize vertical alignment—a principle tested and proven to be essential in students' mastery of math—from kindergarten through high school.

While this innovative new curriculum includes all the trademark *Eureka Math* aha moments that have been delighting students and teachers for years, it also boasts these exciting new features:

Teachability

Eureka Math² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built right into the teacher materials.

Accessibility

Eureka Math² incorporates Universal Design for Learning principles so all learners can access the mathematics and take on challenging math concepts. Student supports are built into the instructional design and are clearly identified in the *Teach* book. Further, the curriculum carries a focus on readability. By eliminating unnecessary words and using simple, clear sentences, the *Eureka Math²* teacher–writers have created one of the most readable mathematics curricula on the market. The curriculum's readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

Digital Engagement

The digital elements of *Eureka Math²* add to students' engagement with the math. The curriculum provides teachers with digital slides for each lesson. In addition, each grade level includes wordless videos that spark students' interest and curiosity. Students at all levels work through mathematical explorations that help lead to their own mathematical discoveries. Digital lessons and videos provide opportunities for students to wonder, explore, and make sense of mathematics, which contributes to the development of a strong, positive mathematical identity.

Standards for Mathematical Practice	Aligned Components of *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

The Real Number System

A1.N-RN.B Use properties of rational and irrational numbers.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.N-RN.B.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.	A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations A1 M4 Lesson 17: Rewriting Square Roots

Quantities

A1.N-Q.A Reason quantitatively and use units to solve problems.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.N-Q.A.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, include utilizing real-world context.	A1 M6 Lesson 5: Solar System Models
A1.N-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling. Include problem-solving opportunities utilizing real-world context.	A1 M4 Lesson 25: Maximizing Area A1 M6 Lesson 5: Solar System Models

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.N-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities utilizing real-world context.	A1 M6 Lesson 5: Solar System Models

Seeing Structure in Expressions

A1.A-SSE.A Interpret the structure of expressions.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-SSE.A.1 Interpret expressions that represent a quantity in terms of its context.	*This standard is fully addressed by the lessons aligned to its subsections.*
A1.A-SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.	A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion
A1.A-SSE.A.1b Interpret expressions by viewing one or more of their parts as a single entity.	A1 M5 Lesson 8: Exponential Functions A1 M5 Lesson 16: Exponential Growth A1 M5 Lesson 17: Exponential Decay A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time
A1.A-SSE.A.2 Use structure to identify ways to rewrite numerical and polynomial expressions. Focus on polynomial multiplication and factoring patterns.	A1 M1 Lesson 1: The Growing Pattern of Ducks A1 M1 Lesson 2: The Commutative, Associative, and Distributive Properties A1 M1 Lesson 3: Polynomial Expressions A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-SSE.A.2 continued	A1 M4 Topic B: Factoring A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square A1 M4 Lesson 15: Deriving the Quadratic Formula A1 M5 Lesson 11: Graphing Exponential Functions A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) A1 M5 Lesson 18: Modeling Populations

Seeing Structure in Expressions

A1.A-SSE.B Write expressions in equivalent forms to solve problems.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-SSE.B.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	*This standard is fully addressed by the lessons aligned to its subsections.*
A1.A-SSE.B.3a Factor a quadratic expression to reveal the zeros of the function it defines.	A1 M4 Lesson 10: Zeros of Functions A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions
A1.A-SSE.B.3b Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions

Arithmetic with Polynomials and Rational Expressions

A1.A-APR.A Perform arithmetic operations on polynomials.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-APR.A.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.	A1 M1 Lesson 3: Polynomial Expressions A1 M1 Lesson 4: Adding and Subtracting Polynomial Expressions A1 M1 Lesson 5: Multiplying Polynomial Expressions A1 M1 Lesson 6: Polynomial Identities

Arithmetic with Polynomials and Rational Expressions

A1.A-APR.B Understand the relationship between zeros and factors of polynomials.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-APR.B.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. Focus on quadratic and cubic polynomials in which linear and quadratic factors are available.	A1 M4 Lesson 10: Zeros of Functions A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form *Supplementary material is necessary to address identifying zeros of cubic polynomials.*

Creating Equations

A1.A-CED.A Create equations that describe numbers or relationships.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M1 Lesson 7: Printing Presses A1 M1 Lesson 11: Writing and Solving Equations in One Variable A1 M1 Lesson 13: Solving Linear Inequalities in One Variable A1 M1 Lesson 15: Solving and Graphing Compound Inequalities A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable
A1.A-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables A1 M2 Lesson 2: Graphing Linear Equations in Two Variables A1 M2 Lesson 3: Creating Linear Equations in Two Variables A1 M2 Lesson 6: Applications of Linear Equations and Inequalities A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts A1 M4 Lesson 25: Maximizing Area A1 M4 Lesson 26: Modeling Data with Quadratic Functions A1 M4 Lesson 27: Search and Rescue Helicopter

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-CED.A.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.	A1 M1 Lesson 11: Writing and Solving Equations in One Variable A1 M1 Lesson 14: Solution Sets of Compound Statements A1 M1 Lesson 15: Solving and Graphing Compound Inequalities A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables A1 M2 Lesson 6: Applications of Linear Equations and Inequalities A1 M6 Lesson 5: Solar System Models
A1.A-CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	A1 M1 Lesson 12: Rearranging Formulas A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations

Reasoning with Equations and Inequalities

A1.A-REI.A Understand solving equations as a process of reasoning and explain the reasoning.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.A.1 Explain each step in solving linear and quadratic equations 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.	A1 M1 Lesson 9: Solving Linear Equations in One Variable A1 M1 Lesson 10: Some Potential Dangers When Solving Equations A1 M1 Lesson 11: Writing and Solving Equations in One Variable

Reasoning with Equations and Inequalities

A1.A-REI.B Solve equations and inequalities in one variable.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	A1 M1 Lesson 7: Printing Presses A1 M1 Lesson 8: Solution Sets for Equations and Inequalities in One Variable A1 M1 Lesson 9: Solving Linear Equations in One Variable A1 M1 Lesson 10: Some Potential Dangers When Solving Equations A1 M1 Lesson 11: Writing and Solving Equations in One Variable A1 M1 Lesson 13: Solving Linear Inequalities in One Variable A1 M1 Lesson 15: Solving and Graphing Compound Inequalities A1 M1 Lesson 16: Solving Absolute Value Equations A1 M1 Lesson 17: Solving Absolute Value Inequalities
A1.A-REI.B.4 Solve quadratic equations in one variable.	*This standard is fully addressed by the lessons aligned to its subsections.*
A1.A-REI.B.4a Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - k)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.	A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square A1 M4 Lesson 15: Deriving the Quadratic Formula

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.B.4b Solve quadratic equations by inspection (e.g., $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Focus on solutions for quadratic equations that have real roots. Include cases that recognize when a quadratic equation has no real solutions.	A1 M4 Lesson 5: Solving Equations That Contain Factored Expressions A1 M4 Lesson 6: Solving Quadratic Equations by Factoring: Identities and Guess and Check A1 M4 Lesson 7: Solving Quadratic Equations by Factoring: Splitting the Linear Term A1 M4 Lesson 8: A Summary of Solving Quadratic Equations by Factoring A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square A1 M4 Lesson 15: Deriving the Quadratic Formula A1 M4 Lesson 16: Solving Quadratic Equations A1 M4 Lesson 18: The Quadratic Formula and Zeros of a Function

Reasoning with Equations and Inequalities

A1.A-REI.C Solve systems of equations.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.C.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.	A1 M2 Lesson 9: A New Way to Solve Systems

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.C.6 Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables. Include problem solving opportunities utilizing real-world context.	A1 M2 Lesson 7: Low-Flow Showerhead A1 M2 Lesson 8: Systems of Linear Equations in Two Variables A1 M2 Lesson 9: A New Way to Solve Systems A1 M2 Lesson 10: The Elimination Method A1 M2 Lesson 11: Applications of Systems of Equations

Reasoning with Equations and Inequalities

A1.A-REI.D Represent and solve equations and inequalities graphically.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.D.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.	A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables A1 M2 Lesson 2: Graphing Linear Equations in Two Variables
A1.A-REI.D.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). Focus on cases where $f(x)$ and/or $g(x)$ are linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M3 Lesson 10: Using Graphs to Solve Equations A1 M3 Lesson 15: The Absolute Value Function A1 M4 Lesson 24: Another Look at Systems of Equations A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) A1 M5 Lesson 20: Comparing Growth of Functions

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.A-REI.D.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.	A1 M2 Lesson 4: Solution Sets of Linear Inequalities in Two Variables A1 M2 Lesson 5: Graphing Linear Inequalities in Two Variables A1 M2 Lesson 12: Solution Sets of Systems of Linear Inequalities A1 M2 Lesson 13: Graphing Solution Sets of Systems of Linear Inequalities A1 M2 Lesson 14: Applications of Systems of Linear Inequalities A1 M6 Lesson 5: Solar System Models

Interpreting Functions

A1.F-IF.A Understand the concept of a function and use function notation.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.A.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 $y = f(x)$.	A1 M3 Topic A: Functions and Their Graphs
A1.F-IF.A.2 Evaluate a function for inputs in the domain, and interpret statements that use function notation in terms of a context.	A1 M3 Lesson 1: The Definition of a Function A1 M3 Lesson 2: Representing, Naming, and Evaluating Functions A1 M3 Lesson 6: Representations of Functions A1 M3 Lesson 16: Step Functions A1 M5 Lesson 1: Exploring Patterns

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.A.2 ***continued***	A1 M5 Lesson 2: The Recursive Challenge A1 M5 Lesson 3: Recursive Formulas for Sequences A1 M5 Lesson 4: Explicit Formulas for Sequences A1 M5 Lesson 7: Sierpinski Triangle
A1.F-IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	A1 M5 Lesson 1: Exploring Patterns A1 M5 Lesson 2: The Recursive Challenge A1 M5 Lesson 3: Recursive Formulas for Sequences A1 M5 Lesson 4: Explicit Formulas for Sequences A1 M5 Lesson 5: Arithmetic and Geometric Sequences A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences

Interpreting Functions

A1.F-IF.B Interpret functions that arise in applications in terms of the context.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.B.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. Include problem-solving opportunities utilizing real-world context. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums.	A1 M3 Lesson 7: Exploring Key Features of a Function and Its Graph A1 M3 Lesson 8: Identifying Key Features of a Function and Its Graph A1 M3 Lesson 9: Representing Functions from Verbal Descriptions A1 M3 Lesson 11: Comparing Functions A1 M3 Lesson 12: Mars Curiosity Rover A1 M3 Lesson 13: Modeling Elevation as a Function of Time A1 M4 Lesson 1: Falling Objects A1 M4 Lesson 2: Projectile Motion A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.B.4 ***continued*** Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts A1 M4 Lesson 25: Maximizing Area
A1.F-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	A1 M3 Lesson 3: The Graph of a Function A1 M3 Lesson 13: Modeling Elevation as a Function of Time A1 M3 Lesson 16: Step Functions A1 M4 Lesson 2: Projectile Motion A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts
A1.F-IF.B.6 Calculate and interpret the average rate of change of a continuous function (presented symbolically or as a table) on a closed interval. Estimate the rate of change from a graph. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M4 Lesson 1: Falling Objects A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form A1 M5 Lesson 19: Analyzing Exponential Growth A1 M5 Lesson 20: Comparing Growth of Functions A1 M5 Lesson 24: Modeling an Invasive Species Population

Interpreting Functions

A1.F-IF.C Analyze functions using different representations.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M3 Lesson 4: The Graph of the Equation $y = f(x)$ A1 M3 Lesson 5: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations A1 M3 Lesson 6: Representations of Functions A1 M3 Topic C: Piecewise-Defined Linear Functions A1 M3 Lesson 19: Building New Functions—Translations A1 M3 Lesson 23: A Summary of Transforming the Graph of a Function A1 M4 Lesson 4: Graphs of Quadratic Functions A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form A1 M4 Lesson 19: Transforming the Graphs of Quadratic Functions A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts A1 M5 Lesson 11: Graphing Exponential Functions A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)
A1.F-IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	*This standard is fully addressed by the lessons aligned to its subsection.*

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-IF.C.8a Use the process of factoring and completing the square of a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	A1 M4 Lesson 10: Zeros of Functions A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions
A1.F-IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M3 Lesson 11: Comparing Functions A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions

Building Functions

A1.F-BF.A Build a function that models a relationship between two quantities.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-BF.A.1 Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M3 Lesson 17: Piecewise Linear Functions in Context A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts A1 M4 Lesson 25: Maximizing Area A1 M4 Lesson 26: Modeling Data with Quadratic Functions A1 M4 Lesson 27: Search and Rescue Helicopter A1 M5 Topic A: Arithmetic and Geometric Sequences A1 M5 Lesson 8: Exponential Functions A1 M5 Lesson 15: Calculating Interest A1 M6 Topic B: Developing Models for Contexts

Building Functions

A1.F-BF.B Build new functions from existing functions.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-BF.B.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, 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. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).	A1 M3 Topic D: Transformations of Functions A1 M4 Lesson 20: Art with Transformations A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time

Linear, Quadratic, and Exponential Models

A1.F-LE.A Construct and compare linear, quadratic, and exponential models and solve problems.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.	A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population A1 M6 Topic A: Modeling Bivariate Quantitative Data

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-LE.A.1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	A1 M5 Lesson 19: Analyzing Exponential Growth
A1.F-LE.A.1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population
A1.F-LE.A.1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population
A1.F-LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or input/output pairs.	A1 M5 Lesson 8: Exponential Functions A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs A1 M5 Lesson 16: Exponential Growth A1 M5 Lesson 17: Exponential Decay A1 M5 Topic D: Comparing Linear and Exponential Models A1 M6 Topic B: Developing Models for Contexts

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-LE.A.3 Observe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.	A1 M5 Lesson 20: Comparing Growth of Functions

Linear, Quadratic, and Exponential Models

A1.F-LE.B Interpret expressions for functions in terms of the situation they model.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.F-LE.B.5 Interpret the parameters in a linear or exponential function with integer exponents utilizing real-world context.	A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 19: Analyzing Exponential Growth A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time A1 M5 Lesson 24: Modeling an Invasive Species Population

Interpreting Categorical and Quantitative Data

A1.S-ID.A Summarize, represent, and interpret data on a single count or measurement variable.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.A.1 Represent real-value data with plots for the purpose of comparing two or more data sets.	A1 M1 Lesson 18: Distributions and Their Shapes A1 M1 Lesson 19: Describing the Center of a Distribution A1 M1 Lesson 20: Using Center to Compare Data Distributions

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.A.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.	A1 M1 Topic D: Univariate Data
A1.S-ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of outliers if present.	A1 M1 Topic D: Univariate Data

Interpreting Categorical and Quantitative Data

A1.S-ID.B Summarize, represent, and interpret data on two categorical and quantitative variables.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.B.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.	A1 M2 Lesson 22: Summarizing Bivariate Categorical Data with Two-Way Tables A1 M2 Lesson 23: Bivariate Categorical Data and Conditional Relative Frequency Tables A1 M2 Lesson 24: Conditional Relative Frequencies and Association

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the quantities are related.	A1 M2 Lesson 15: Relationships Between Quantitative Variables A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data
A1.S-ID.B.6a Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Focus on linear models.	A1 M2 Lesson 16: Using Lines to Model Bivariate Quantitative Data A1 M2 Lesson 17: Modeling Relationships with a Line A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts A1 M4 Lesson 26: Modeling Data with Quadratic Functions A1 M4 Lesson 27: Search and Rescue Helicopter A1 M6 Topic A: Modeling Bivariate Quantitative Data
A1.S-ID.B.6b Informally assess the fit of a function by plotting and analyzing residuals.	A1 M2 Lesson 18: Calculating and Analyzing Residuals A1 M2 Lesson 19: Analyzing Residuals A1 M6 Topic A: Modeling Bivariate Quantitative Data

Interpreting Categorical and Quantitative Data

A1.S-ID.C Interpret linear models.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.C.7 Interpret the slope as a rate of change and the constant term of a linear model in the context of the data.	A1 M2 Lesson 16: Using Lines to Model Bivariate Quantitative Data A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-ID.C.8 Compute and interpret the correlation coefficient of a linear relationship.	A1 M2 Lesson 20: Interpreting Correlation A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data
A1.S-ID.C.9 Distinguish between correlation and causation.	A1 M2 Lesson 20: Interpreting Correlation A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data

Conditional Probability and the Rules of Probability

A1.S-CP.A Understand independence and conditional probability and use them to interpret data.

Arizona Mathematics Standards	Aligned Components of *Eureka Math²*
A1.S-CP.A.1 Describe events as subsets of a sample space using characteristics of the outcomes, or as unions, intersections, or complements of other events.	*Supplemental material is necessary to address this standard.*
A1.S-CP.A.2 Use the Multiplication Rule for independent events to 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.	*Supplemental material is necessary to address this standard.*