ABOUT *EUREKA MATH*

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students' mastery of math.

Teachers and students using *Eureka Math* find the trademark "Aha!" moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

ALGEBRA 2

The majority of the Algebra 2 Arizona Mathematics Standards are fully covered by the Algebra II *Eureka Math* curriculum. The areas where the Algebra 2 Arizona Mathematics Standards and Algebra II *Eureka Math* do not align will require the use of *Eureka Math* content from other courses or supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Arizona Mathematics Standards while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

Green indicates that the Arizona standard is fully addressed in *Eureka Math*.

Yellow indicates that the Arizona standard may not be completely addressed in *Eureka Math*.

Red indicates that the Arizona standard is not addressed in *Eureka Math*.

Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Arizona standards and in *Eureka Math*.

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
1: Make sense of problems and persevere in solving them. Mathematically proficient students explain to themselves the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. While engaging in productive struggle to solve a problem, they continually ask themselves, "Does this make sense?" to monitor and evaluate their progress and change course if necessary. Once they have a solution, they look back at the problem to determine if the solution is reasonable and accurate. Mathematically proficient students check their solutions to problems using different methods, approaches, or representations. They also compare and understand different representations of problems and different solution pathways, both their own and those of others.	Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions
2: Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. Students can contextualize and decontextualize problems involving quantitative relationships. They contextualize quantities, operations, and expressions by describing a corresponding situation. They decontextualize a situation by representing it symbolically. As they manipulate the symbols, they can pause as needed to access the meaning of the numbers, the units, and the operations that the symbols represent. Mathematically proficient students know and flexibly use different properties of operations, numbers, and geometric objects and when appropriate they interpret their solution in terms of the context.	Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions Algebra II M4: Inferences and Conclusions from Data

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
3: Construct viable arguments and critique the reasoning of others. Mathematically proficient students construct mathematical arguments (explain the reasoning underlying a strategy, solution, or conjecture) using concrete, pictorial, or symbolic referents. Arguments may also rely on definitions, assumptions, previously established results, properties, or structures. Mathematically proficient students make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. Mathematically proficient students present their arguments in the form of representations, actions on those representations, and explanations in words (oral or written). Students critique others by affirming or questioning the reasoning of others. They can listen to or read the reasoning of others, decide whether it makes sense, ask questions to clarify or improve the reasoning, and validate or build on it. Mathematically proficient students can communicate their arguments, compare them to others, and reconsider their own arguments in response to the critiques of others.	Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules: Algebra II M2: Trigonometric Functions Algebra II M4: Inferences and Conclusions from Data

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
4: Model with mathematics. Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. When given a problem in a contextual situation, they identify the mathematical elements of a situation and create a mathematical model that represents those mathematical elements and the relationships among them. Mathematically proficient students use their model to analyze the relationships and draw conclusions. They interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	Lessons in every module engage students in modeling with mathematics as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions Algebra II M4: Inferences and Conclusions from Data
5: Use appropriate tools strategically. Mathematically proficient students consider available tools when solving a mathematical problem. They choose tools that are relevant and useful to the problem at hand. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful; recognizing both the insight to be gained and their limitations. Students deepen their understanding of mathematical concepts when using tools to visualize, explore, compare, communicate, make and test predictions, and understand the thinking of others.	Lessons in every module engage students in using appropriate tools strategically as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M4: Inferences and Conclusions from Data

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
6: Attend to precision. Mathematically proficient students clearly communicate to others using appropriate mathematical terminology, and craft explanations that convey their reasoning. When making mathematical arguments about a solution, strategy, or conjecture, they describe mathematical relationships and connect their words clearly to their representations. Mathematically proficient students understand meanings of symbols used in mathematics, calculate accurately and efficiently, label quantities appropriately, and record their work clearly and concisely.	Lessons in every module engage students in attending to precision as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions Algebra II M4: Inferences and Conclusions from Data
7: Look for and make use of structure. Mathematically proficient students use structure and patterns to assist in making connections among mathematical ideas or concepts when making sense of mathematics. Students recognize and apply general mathematical rules to complex situations. They are able to compose and decompose mathematical ideas and notations into familiar relationships. Mathematically proficient students manage their own progress, stepping back for an overview and shifting perspective when needed.	Lessons in every module engage students in looking for and making use of structure as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 7, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
8: Look for and express regularity in repeated reasoning. Mathematically proficient students look for and describe regularities as they solve multiple related problems. They formulate conjectures about what they notice and communicate observations with precision. While solving problems, students maintain oversight of the process and continually evaluate the reasonableness of their results. This informs and strengthens their understanding of the structure of mathematics which leads to fluency.	Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 8, which is specifically addressed in the following modules: Algebra II M1: Polynomial, Rational, and Radical Relationships Algebra II M2: Trigonometric Functions Algebra II M3: Exponential and Logarithmic Functions

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Number and Quantity	**The Real Number System**	**Cluster: Extend the properties of exponents to rational exponents.**	
		A2.N-RN.A.1 Explain how the definition 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.	Algebra II M3 Topic A: Real Numbers
		A2.N-RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Algebra II M3 Topic A: Real Numbers
	Quantities	**Cluster: Reason quantitatively and use units to solve problems.**	
		A2.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.	Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		A2.N-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling. Include problem-solving opportunities utilizing real-world context.	Algebra I M1 Topic A: Introduction to Functions Studied this Year—Graphing Stories Algebra I M5 Lesson 1: Analyzing a Graph Algebra I M5 Topic B: Completing the Modeling Cycle Algebra II M1 Lessons 20–21: Modeling Riverbeds with Polynomials Algebra II M3 Lesson 2: Base 10 and Scientific Notation Algebra II M3 Lesson 9: Logarithms—How Many Digits Do You Need?
		A2.N-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities utilizing real-world context.	Algebra I M1 Topic A: Introduction to Functions Studied this Year—Graphing Stories Algebra I M5: A Synthesis of Modeling with Equations and Functions
	The Complex Number System	**Cluster: Perform arithmetic operations with complex numbers.**	
		A2.N-CN.A.1 Apply the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. Write complex numbers in the form $(a + bi)$ with a and b real.	Algebra II M1 Lesson 37: A Surprising Boost from Geometry

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Use complex numbers in polynomial identities and equations.	
		A2.N-CN.C.7 Solve quadratic equations with real coefficients that have complex solutions.	Algebra II M1 Lesson 38: Complex Numbers as Solutions to Equations Algebra II M1 Lesson 39: Factoring Extended to the Complex Realm
Algebra	**Seeing Structure in Expressions**	**Cluster: Interpret the structure of expressions.**	
		A2.A-SSE.A.2 Use structure to identify ways to rewrite polynomial and rational expressions. Focus on polynomial operations and factoring patterns.	Algebra II M1 Topic A: Polynomials—From Base Ten to Base X Algebra II M1 Lesson 12: Overcoming Obstacles in Factoring Algebra II M1 Lesson 13: Mastering Factoring Algebra II M3 Lesson 12: Properties of Logarithms Algebra II M3 Lesson 14: Solving Logarithmic Equations Algebra II M3 Lesson 15: Why Were Logarithms Developed?

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		Cluster: Write expressions in equivalent forms to solve problems.		
		A2.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. Include problem-solving opportunities utilizing real-world context and focus on expressions with rational exponents.		
		c. Use the properties of exponents to transform expressions for exponential functions.		Algebra I M3 Lesson 23: Newton's Law of Cooling Algebra II M3 Lesson 26: Percent Rate of Change
		A2.A-SSE.B.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.		Algebra II M3 Topic E: Geometric Series and Finance

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Arithmetic with Polynomials and Rational Expressions	**Cluster: Understand the relationship between zeros and factors of polynomials.**	
		A2.A-APR.B.2 Know and apply the Remainder and Factor 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 $p(x)$.	Algebra II M1 Lesson 19: The Remainder Theorem
		A2.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, cubic, and quartic polynomials including polynomials for which factors are not provided.	Algebra II M1 Lesson 11: The Special Role of Zero in Factoring Algebra II M1 Lesson 14: Graphing Factored Polynomials
		Cluster: Use polynomial identities to solve problems.	
		A2.A-APR.C.4 Prove polynomial identities and use them to describe numerical relationships.	Algebra II M1 Topic A: Polynomials—From Base Ten to Base X

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Rewrite rational expressions.	
		A2.A-APR.D.6 Rewrite 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.	Algebra II M1 Lesson 4: Comparing Methods—Long Division, Again? Algebra II M1 Lesson 18: Overcoming a Second Obstacle in Factoring—What If There Is a Remainder? Algebra II M1 Lesson 22: Equivalent Rational Expressions Algebra II M1 Lesson 24: Multiplying and Dividing Rational Expressions Algebra II M1 Lesson 25: Adding and Subtracting Rational Expressions
	Creating Equations	**Cluster: Create equations that describe numbers or relationships.**	
		A2.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 equations and inequalities arising from linear, quadratic, rational, and exponential functions.	Algebra II M1 Lesson 27: Word Problems Leading to Rational Equations Algebra II M3 Lesson 7: Bacteria and Exponential Growth Algebra II M3 Lesson 26: Percent Rate of Change Algebra II M3 Lesson 27: Modeling with Exponential Functions

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Reasoning with Equations and Inequalities	**Cluster: Understand solving equations as a process of reasoning and explain the reasoning.**	
		A2.A-REI.A.1 Explain each step in solving an 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. Extend from quadratic equations to rational and radical equations.	Algebra I M1 Lesson 12: Solving Equations Algebra I M1 Lesson 13: Some Potential Dangers when Solving Equations Algebra I M1 Lesson 17: Equations Involving Factored Expressions Algebra I M1 Lesson 18: Equations Involving a Variable Expression in the Denominator Algebra II M1 Lesson 28: A Focus on Square Roots
		A2.A-REI.A.2 Solve rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	Algebra II M1 Lesson 22: Equivalent Rational Expressions Algebra II M1 Lesson 23: Comparing Rational Expressions Algebra II M1 Lesson 26: Solving Rational Equations Algebra II M1 Lesson 27: Word Problems Leading to Rational Equations Algebra II M1 Lesson 28: A Focus on Square Roots Algebra II M1 Lesson 29: Solving Radical Equations

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Solve equations and inequalities in one variable.	
		A2.A-REI.B.4 Fluently solve quadratic equations in one variable. 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.	Algebra I M4 Lesson 5: The Zero Product Property Algebra I M4 Lesson 6: Solving Basic One-Variable Quadratic Equations Algebra I M4 Lesson 7: Creating and Solving Quadratic Equations in One Variable Algebra I M4 Lesson 14: Deriving the Quadratic Formula Algebra I M4 Lesson 15: Using the Quadratic Formula Algebra II M1 Lesson 31: Systems of Equations Algebra II M1 Lesson 38: Complex Numbers as Solutions to Equations
		Cluster: Solve systems of equations.	
		A2.A-REI.C.7 Solve a system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.	Algebra II M1 Lesson 31: Systems of Equations Algebra II M1 Lesson 32: Graphing Systems of Equations

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Represent and solve equations and inequalities graphically.	
		A2.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). Include problems in real-world context. Extend from linear, quadratic, and exponential functions to cases where $f(x)$ and/or $g(x)$ are polynomial, rational, exponential, and logarithmic functions.	Algebra I M3 Lesson 16: Graphs Can Solve Equations Too Algebra II M1 Lesson 36: Overcoming a Third Obstacle to Factoring—What If There Are No Real Number Solutions? Algebra II M3 Lesson 24: Solving Exponential Equations

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Functions	**Interpreting Functions**	**Cluster: Interpret functions that arise in applications in terms of the context.**	
		A2.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 a real-world context. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions.	Algebra II M1 Lessons 16–17: Modeling with Polynomials—An Introduction Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M2 Lesson 13: Tides, Sound Waves, and Stock Markets Algebra II M3 Lesson 18: Graphs of Exponential Functions and Logarithmic Functions Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions Algebra II M3 Lesson 21: The Graph of the Natural Logarithm Function

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		A2.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. Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions.		Algebra II M3 Lesson 6: Euler's Number, *e* Algebra II M3 Lesson 27: Modeling with Exponential Functions

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Analyze functions using different representations.	
		A2.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. Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions.	Algebra I M3 Topic C: Transformations of Functions Algebra I M4 Topic C: Function Transformations and Modeling Algebra II M1 Lesson 14: Graphing Factored Polynomials Algebra II M1 Lesson 15: Structure in Graphs of Polynomial Functions Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M2 Lesson 8: Graphing the Sine and Cosine Functions Algebra II M2 Lesson 11: Transforming the Graph of the Sine Function Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M3 Lesson 16: Rational and Irrational Numbers Algebra II M3 Lesson 18: Graphs of Exponential Functions and Logarithmic Functions Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions Algebra II M3 Lesson 33: The Million Dollar Problem

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		A2.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.		
		b. Use the properties of exponents to interpret expressions for exponential functions and classify those functions as exponential growth or decay.		Algebra II M3 Lesson 23: Bean Counting Algebra II M3 Lesson 27: Modeling with Exponential Functions Algebra II M3 Topic E: Geometric Series and Finance
		A2.F-IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions.		Algebra II M3 Lesson 27: Modeling with Exponential Functions Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited Algebra II M3 Topic E: Geometric Series and Finance

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
	Building Functions	**Cluster: Build a function that models a relationship between two quantities.**		
		A2.F-BF.A.1 Write a function that describes a relationship between two quantities. Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions. Include problem-solving opportunities utilizing real-world context.		
		a. Determine an explicit expression, a recursive process, or steps for calculation from a context.		Algebra II M1 Lesson 1: Successive Differences in Polynomials Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M3 Lesson 5: Irrational Exponents—What are $2^{\sqrt{2}}$ and 2^{π}? Algebra II M3 Lesson 6: Euler's Number, *e* Algebra II M3 Lesson 7: Bacteria and Exponential Growth Algebra II M3 Lesson 26: Percent Rate of Change Algebra II M3 Lesson 27: Modeling with Exponential Functions

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		b. Combine function types using arithmetic operations and function composition.		Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited Algebra II M3 Lesson 30: Buying a Car Algebra II M3 Lesson 33: The Million Dollar Problem
		A2.F-BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.		Algebra II M3 Lesson 25: Geometric Sequences and Exponential Growth and Decay Algebra II M3 Lesson 26: Percent Rate of Change

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		Cluster: Build new functions from existing functions.	
		A2.F-BF.B.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(k + x)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. Functions include linear, quadratic, exponential, polynomial, logarithmic, rational, sine, cosine, tangent, square root, cube root and piecewise-defined functions.	Algebra II M2 Lesson 11: Transforming the Graph of the Sine Function Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		A2.F-BF.B.4 Find inverse functions.		
		a. Understand that an inverse function can be obtained by expressing the dependent variable of one function as the independent variable of another, recognizing that functions f and g are inverse functions if and only if $f(x) = y$ and $g(y) = x$ for all values of x in the domain of f and all values of y in the domain of g.		Algebra II M3 Lesson 7: Bacteria and Exponential Growth Algebra II M3 Lesson 8: The "WhatPower" Function Algebra II M3 Lesson 19: The Inverse Relationship Between Logarithmic and Exponential Functions Algebra II M3 Lesson 24: Solving Exponential Equations
		b. Understand that if a function contains a point (a, b), then the graph of the inverse relation of the function contains the point (b, a).		Precalculus and Advanced Topics M3 Topic C: Inverse Functions
		c. Interpret the meaning of and relationship between a function and its inverse utilizing real-world context.		Precalculus and Advanced Topics M3 Topic C: Inverse Functions

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Linear, Quadratic, and Exponential Models	**Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.**	
		A2.F-LE.A.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 logarithms that are not readily found by hand or observation using technology.	Algebra II M3 Topic B: Logarithms Algebra II M3 Lesson 19: The Inverse Relationship Between Logarithmic and Exponential Functions Algebra II M3 Topic D: Using Logarithms in Modeling Situations
		Cluster: Interpret expressions for functions in terms of the situation they model.	
		A2.F-LE.B.5 Interpret the parameters in an exponential function with rational exponents utilizing real-world context.	Algebra I M3 Topic D: Using Functions and Graphs to Solve Problems Algebra II M3 Topic E: Geometric Series and Finance
	Trigonometric Functions	**Cluster: Extend the domain of trigonometric functions using the unit circle.**	
		A2.F-TF.A.1 Understand radian measure of an angle as the length of the arc on any circle subtended by the angle, measured in units of the circle's radius.	Algebra II M2 Lesson 9: Awkward! Who Chose the Number 360, Anyway?

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
		A2.F-TF.A.2 Explain how the unit circle in the coordinate plane enables the extension of sine and cosine functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	Algebra II M2: Trigonometric Functions
		Cluster: Model periodic phenomena with trigonometric functions.	
		A2.F-TF.B.5 Create and interpret sine, cosine and tangent functions that model periodic phenomena with specified amplitude, frequency, and midline.	Algebra II M2 Lesson 11: Transforming the Graph of the Sine Function Algebra II M2 Lesson 12: Ferris Wheels—Using Trigonometric Functions to Model Cyclical Behavior Algebra II M2 Lesson 13: Tides, Sound Waves, and Stock Markets
		Cluster: Apply trigonometric identities.	
		A2.F-TF.C.8 Use the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and the quadrant of the angle (θ) to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$ or $\cos(\theta)$.	Algebra II M2 Lesson 15: What Is a Trigonometric Identity?

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
Statistics and Probability	**Interpreting Categorical and Quantitative Data**	**Cluster: Summarize, represent, and interpret data on a single count or measurement variable.**		
		A2.S-ID.A.4 Use the mean and standard deviation of a data set to fit it to a normal curve, and use properties of the normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, or tables to estimate areas under the normal curve.		Algebra II M4 Topic B: Modeling Data Distributions

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables.		
		A2.S-ID.B.6 Represent data of two quantitative variables on a scatter plot, and describe how the quantities are related. Extend to polynomial and exponential models.		
		a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context.		Algebra I M2 Lessons 12–13: Relationships Between Two Numerical Variables Algebra I M2 Lesson 19: Interpreting Correlation Algebra I M2 Lesson 20: Analyzing Data Collected on Two Variables Algebra I M5 Lesson 7: Modeling a Context from Data Algebra II M1 Lessons 20–21: Modeling Riverbeds with Polynomials Algebra II M2 Lesson 13: Tides, Sound Waves, and Stock Markets
		Cluster: Interpret models.		
		A2.S-ID.C.10 Interpret parameters of exponential models.		*Eureka Math* does not address the parameters of exponential models.

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Making Inferences and Justifying Conclusions	**Cluster: Understand and evaluate random processes underlying statistical experiments.**	
		A2.S-IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Algebra II M4 Topic C: Drawing Conclusions Using Data from a Sample
		A2.S-IC.A.2 Explain whether a specified model is consistent with results from a given data-generating process.	Algebra II M4 Lesson 1: Chance Experiments, Sample Spaces, and Events
		Cluster: Make inferences and justify conclusions from experiments, and observational studies.	
		A2.S-IC.B.3 Recognize the purposes of and differences between designed experiments, sample surveys and observational studies.	Algebra II M4 Lesson 12: Types of Statistical Studies Algebra II M4 Topic D: Drawing Conclusions Using Data from an Experiment
		A2.S-IC.B.4 Use data from a sample survey to estimate a population mean or proportion; recognize that estimates are unlikely to be correct and the estimates will be more precise with larger sample sizes.	Algebra II M4 Topic C: Drawing Conclusions Using Data from a Sample

Conceptual Category	Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Conditional Probability and the Rules of Probability	**Cluster: Understand independence and conditional probability and use them to interpret data.**	
		A2.S-CP.A.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.	Algebra II M4 Lesson 4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables Algebra II M4 Lesson 6: Probability Rules
		A2.S-CP.A.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.	Algebra II M4 Lesson 2: Calculating Probabilities of Events Using Two-Way Tables Algebra II M4 Lessons 3–4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables
		A2.S-CP.A.5 Recognize and explain the concepts of conditional probability and independence utilizing real-world context.	Algebra II M4 Topic A: Probability

Conceptual Category	Domain	Standards for Mathematical Content		Aligned Components of *Eureka Math*
		Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model.		
		A2.S-CP.B.6 Use Bayes Rule to 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.		Algebra II M4 Lessons 3–4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables
		A2.S-CP.B.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.		Algebra II M4 Lesson 7: Probability Rules
		A2.S-CP.B.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.		Precalculus and Advanced Topics M5 Lesson 1: The General Multiplication Rule Precalculus and Advanced Topics M5 Topic C: Using Probability to Make Decisions