Algebra II | Tennessee Academic Standards for Mathematics Correlation to *Eureka Math*®

About *Eureka Math*

Created by Great Minds®, a mission-driven Public Benefit Corporation, *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

Great Minds offers detailed analyses that demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

Data

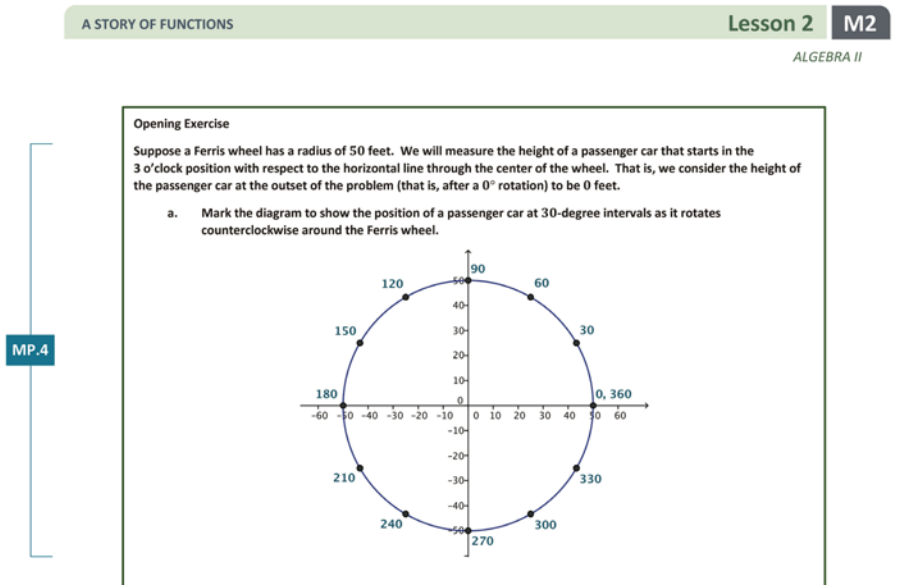
Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

Full Suite of Resources

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

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

The Real Number System

A2.N.RN.A Extend the properties of exponents to rational exponents.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.N.RN.A.1 Extend the properties of integer exponents to rational exponents.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.N.RN.A.1a Develop the meaning of rational exponents by applying the properties of integer exponents.	Algebra II M3 Lesson 3: Rational Exponents Algebra II M3 Lesson 4: Properties of Exponents and Radicals Algebra II M3 Lesson 5: Irrational Exponents
A2.N.RN.A.1b Explain why $x^{\frac{1}{n}}$ can be written as the n^{th} root of x^2.	Algebra II M3 Lesson 1: Integer Exponents Algebra II M3 Lesson 3: Rational Exponents Algebra II M3 Lesson 4: Properties of Exponents and Radicals
A2.N.RN.A.1c Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Algebra II M3 Lesson 1: Integer Exponents Algebra II M3 Lesson 2: Base 10 and Scientific Notation Algebra II M3 Lesson 3: Rational Exponents Algebra II M3 Lesson 4: Properties of Exponents and Radicals

Quantities

A2.N.Q.A Reason quantitatively and use units to understand problems.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.N.Q.A.1 Use units as a way to understand real-world problems.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.N.Q.A.1a Choose and interpret the scale and the origin in graphs and data displays.	Algebra II M3 Lesson 3: Rational Exponents Algebra II M3 Lesson 23: Bean Counting
A2.N.Q.A.1b Use appropriate quantities in formulas, converting units as necessary.	Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 32: Graphing Systems of Equations Algebra II M3 Lesson 1: Integer Exponents
A2.N.Q.A.1c Define and justify appropriate quantities within a context for the purpose of modeling.	Algebra II M1 Lesson 20: Modeling Riverbeds with Polynomials Algebra II M1 Lesson 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.1d Choose an appropriate level of accuracy when reporting quantities.	Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 20: Modeling Riverbeds with Polynomials Algebra II M1 Lesson 21: Modeling Riverbeds with Polynomials

Matrices

A2.N.M.A Perform operations on matrices and use matrices in applications.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.N.M.A.1 Use matrices to represent data in a real-world context. Interpret rows, columns, and dimensions of matrices in terms of the context.	Precalculus and Advanced Topics M2 Topic A: Networks and Matrices
A2.N.M.A.2 Perform operations on matrices in a real-world context.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.N.M.A.2a Multiply a matrix by a scalar to produce a new matrix.	Precalculus and Advanced Topics M2 Lesson 2: Networks and Matrix Arithmetic Precalculus and Advanced Topics M2 Lesson 3: Matrix Arithmetic in Its Own Right Precalculus and Advanced Topics M2 Lesson 4: Linear Transformations Review Precalculus and Advanced Topics M2 Lesson 5: Coordinates of Points in Space Precalculus and Advanced Topics M2 Lesson 6: Linear Transformations as Matrices Precalculus and Advanced Topics M2 Lesson 26: Projecting a 3-D Object onto a 2-D Plane Precalculus and Advanced Topics M2 Lesson 27: Designing Your Own Game
A2.N.M.A.2b Add and/or subtract matrices by hand and using technology.	Precalculus and Advanced Topics M1 Lesson 25: Matrix Multiplication and Addition Precalculus and Advanced Topics M2 Lesson 2: Networks and Matrix Arithmetic Precalculus and Advanced Topics M2 Lesson 4: Linear Transformations Review Precalculus and Advanced Topics M2 Lesson 5: Coordinates of Points in Space Precalculus and Advanced Topics M2 Lesson 6: Linear Transformations as Matrices Precalculus and Advanced Topics M2 Lesson 11: Matrix Addition Is Commutative

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.N.M.A.2c Multiply matrices of appropriate dimensions, by hand in simple cases and using technology for more complicated cases.	Precalculus and Advanced Topics M1 Lesson 22: Modeling Video Game Motion with Matrices Precalculus and Advanced Topics M1 Lesson 24: Matrix Notation Encompasses New Transformations! Precalculus and Advanced Topics M1 Lesson 25: Matrix Multiplication and Addition Precalculus and Advanced Topics M2 Lesson 3: Matrix Arithmetic in Its Own Right Precalculus and Advanced Topics M2 Lesson 4: Linear Transformations Review Precalculus and Advanced Topics M2 Lesson 6: Linear Transformations as Matrices Precalculus and Advanced Topics M2 Lesson 8: Composition of Linear Transformations Precalculus and Advanced Topics M2 Lesson 9: Composition of Linear Transformations Precalculus and Advanced Topics M2 Lesson 10: Matrix Multiplication Is Not Commutative Precalculus and Advanced Topics M2 Lesson 12: Matrix Multiplication Is Distributive and Associative Precalculus and Advanced Topics M2 Lesson 13: Using Matrix Operations for Encryption Precalculus and Advanced Topics M2 Topic E: First-Person Video Games—Projection Matrices
A2.N.M.A.2d Describe the roles that zero matrices and identity matrices play in matrix addition and multiplication, recognizing that they are similar to the roles of 0 and 1 in the real number system.	Precalculus and Advanced Topics M1 Lesson 24: Matrix Notation Encompasses New Transformations! Precalculus and Advanced Topics M1 Lesson 25: Matrix Multiplication and Addition Precalculus and Advanced Topics M1 Lesson 26: Getting a Handle on New Transformations Precalculus and Advanced Topics M1 Lesson 27: Getting a Handle on New Transformations Precalculus and Advanced Topics M1 Lesson 28: When Can We Reverse a Transformation? Precalculus and Advanced Topics M1 Lesson 29: When Can We Reverse a Transformation? Precalculus and Advanced Topics M1 Lesson 30: When Can We Reverse a Transformation? Precalculus and Advanced Topics M2 Lesson 6: Linear Transformations as Matrices Precalculus and Advanced Topics M2 Lesson 13: Using Matrix Operations for Encryption Precalculus and Advanced Topics M2 Topic C: Systems of Linear Equations

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.N.M.A.3 Create and use augmented matrices to solve systems of linear equations in real-world contexts, by hand and using technology.	Precalculus and Advanced Topics M2 Topic C: Systems of Linear Equations

Seeing Structure in Expressions

A2.A.SSE.A Interpret the structure of expressions.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.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.*
A2.A.SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.	Algebra II M1 Lesson 2: The Multiplication of Polynomials Algebra II M1 Lesson 3: The Division of Polynomials Algebra II M1 Lesson 5: Putting It All Together Algebra II M1 Lesson 12: Overcoming Obstacles in Factoring Algebra II M1 Lesson 13: Mastering Factoring

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.A.SSE.A.1b Interpret complicated expressions by viewing one or more of their parts as a single entity.	Algebra II M1 Lesson 10: The Power of Algebra—Finding Pythagorean Triples Algebra II M1 Lesson 11: The Special Role of Zero in Factoring Algebra II M1 Lesson 12: Overcoming Obstacles in Factoring Algebra II M1 Lesson 13: Mastering Factoring Algebra II M3 Lesson 7: Bacteria and Exponential Growth Algebra II M3 Lesson 12: Properties of Logarithms Algebra II M3 Lesson 27: Modeling with Exponential Functions

Arithmetic with Polynomials and Rational Expressions

A2.A.APR.A Understand the relationship between zeros and factors of polynomials.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.A.APR.A.1 Know and apply the Factor Theorem: For a polynomial $p(x)$ and a number a, $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.	Algebra II M1 Lesson 19: The Remainder Theorem Algebra II M1 Lesson 20: Modeling Riverbeds with Polynomials Algebra II M1 Lesson 40: Obstacles Resolved—A Surprising Result
A2.A.APR.A.2 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.	Algebra II M1 Lesson 11: The Special Role of Zero in Factoring Algebra II M1 Lesson 14: Graphing Factored Polynomials Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 19: The Remainder Theorem Algebra II M1 Lesson 40: Obstacles Resolved—A Surprising Result

Creating Equations

A2.A.CED.A Create equations that describe numbers or relationships.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems in a real-world context.	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
A2.A.CED.A.2 Create equations in two variables to represent relationships between quantities and use them to solve problems in a real-world context. Graph equations with two variables on coordinate axes with labels and scales, and use the graphs to make predictions.	Algebra II M1 Lesson 1: Successive Differences in Polynomials Algebra II M1 Lesson 20: Modeling Riverbeds with Polynomials Algebra II M3 Lesson 23: Bean Counting Algebra II M3 Lesson 26: Percent Rate of Change Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited
A2.A.CED.A.3 Rearrange formulas to isolate a quantity of interest using algebraic reasoning.	Algebra I M1 Lesson 19: Rearranging Formulas

Reasoning with Equations and Inequalities

A2.A.REI.A Understand solving equations as a process of reasoning and explain the reasoning.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.A.REI.A.1 Understand solving equations as a process of reasoning and explain the reasoning. Construct a viable argument to justify a solution method.	Algebra II M1 Lesson 11: The Special Role of Zero in Factoring Algebra II M1 Lesson 28: A Focus on Square Roots
A2.A.REI.A.2 Solve radical equations in one variable, and identify extraneous solutions when they exist.	Algebra II M1 Lesson 28: A Focus on Square Roots Algebra II M1 Lesson 29: Solving Radical Equations

Reasoning with Equations and Inequalities

A2.A.REI.B Solve systems of equations.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.A.REI.B.3 Write and solve a system of linear equations in a real-world context.	Algebra II M1 Lesson 30: Linear Systems in Three Variables Algebra II M1 Lesson 31: Systems of Equations
A2.A.REI.B.4 Solve a system consisting of a linear equation and a quadratic equation in two variables algebraically, graphically, and using technology.	Algebra II M1 Lesson 31: Systems of Equations Algebra II M1 Lesson 32: Graphing Systems of Equations

Interpreting Functions

A2.F.IF.A Interpret functions that arise in applications in terms of the context.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.IF.A.1 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.	Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction Algebra II M3 Lesson 17: Graphing the Logarithm Function 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
A2.F.IF.A.2 Calculate and interpret the average rate of change of a function (presented algebraically or as a table) over a specified interval. Estimate and interpret the rate of change from a graph.	Algebra II M3 Lesson 6: Euler's Number, e Algebra II M3 Lesson 27: Modeling with Exponential Functions
A2.F.IF.A.3 Understand geometric formulas as functions.	*Supplemental material is necessary to address this standard.*

Interpreting Functions

A2.F.IF.B Analyze functions using different representations.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.IF.B.4 Graph functions expressed algebraically and show key features of the graph by hand and using technology.	Algebra II M1 Lesson 11: The Special Role of Zero in Factoring 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 M3 Lesson 16: Rational and Irrational Numbers Algebra II M3 Lesson 17: Graphing the Logarithm Function 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
A2.F.IF.B.5 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 subsections.*
A2.F.IF.B.5a Rewrite quadratic functions to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a real-world context.	Algebra I M4 Lesson 9: Graphing Quadratic Functions from Factored Form, $f(x) = a(x - m)(x - n)$ Algebra I M4 Lesson 12: Completing the Square Algebra I M4 Lesson 15: Using the Quadratic Formula Algebra I M4 Lesson 16: Graphing Quadratic Equations from the Vertex Form, $y = a(x - h)^2 + k$ Algebra I M4 Lesson 17: Graphing Quadratic Functions from the Standard Form, $f(x) = ax^2 + bx + c$ Algebra I M4 Lesson 21: Transformations of the Quadratic Parent Function, $f(x) = x^2$ Algebra I M4 Lesson 23: Modeling with Quadratic Functions

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.IF.B.5b Know and use the properties of exponents to interpret expressions for exponential functions in terms of a real-world context.	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.B.6 Compare properties of functions represented algebraically, graphically, numerically in tables, or by verbal descriptions.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.F.IF.B.6a Compare properties of two different functions. Functions may be of different types and/or represented in different ways.	Algebra I M4 Lesson 22: Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways Algebra II M3 Lesson 27: Modeling with Exponential Functions Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited Algebra II M3 Lesson 30: Buying a Car Algebra II M3 Lesson 31: Credit Cards
A2.F.IF.B.6b Compare properties of the same function on two different intervals or represented in two different ways.	Algebra II M3 Lesson 31: Credit Cards

Building Functions

A2.F.BF.A Build a function that models a relationship between two quantities.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.BF.A.1 Build a function that describes a relationship between two quantities.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.F.BF.A.1a Combine standard function types using arithmetic operations.	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.1b Combine standard function types using composition.	Precalculus and Advanced Topics M3 Lesson 16: Function Composition Precalculus and Advanced Topics M3 Lesson 17: Solving Problems by Functions Composition
A2.F.BF.A.2 Define sequences as functions, including recursive definitions, whose domain is a subset of the integers. Write explicit and recursive formulas for arithmetic and geometric sequences in context and connect them to linear and exponential functions.	Algebra II M3 Lesson 25: Geometric Sequences and Exponential Growth and Decay Algebra II M3 Lesson 26: Percent Rate of Change Algebra II M3 Lesson 29: The Mathematics Behind a Structured Savings Plan

Building Functions

A2.F.BF.B Build new functions from existing functions.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.BF.B.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs.	Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions
A2.F.BF.B.4 Find the inverse of a function.	Algebra I M3 Lesson 22: Modeling an Invasive Species Population 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 Precalculus and Advanced Topics M3 Topic C: Inverse Functions
A2.F.BF.B.4a Determine whether a function is one-to-one.	*Supplemental material is necessary to address this standard.*
A2.F.BF.B.4b Find the inverse of a function on an appropriate domain.	Precalculus and Advanced Topics M3 Lesson 18: Inverse Functions Precalculus and Advanced Topics M3 Lesson 19: Restricting the Domain
A2.F.BF.B.4c Given an invertible function on an appropriate domain, identify the domain of the inverse function.	Precalculus and Advanced Topics M3 Lesson 18: Inverse Functions Precalculus and Advanced Topics M3 Lesson 19: Restricting the Domain

Linear, Quadratic, and Exponential Models

A2.F.LE.A Construct and compare linear, quadratic, and exponential models and solve problems.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.LE.A.1 Know the relationship between exponential functions and logarithmic functions.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.F.LE.A.1a Solve exponential equations using a variety of strategies, including logarithms.	Algebra II M3 Lesson 7: Bacteria and Exponential Growth Algebra II M3 Lesson 8: The "WhatPower" Function Algebra II M3 Lesson 12: Properties of Logarithms Algebra II M3 Lesson 13: Changing the Base Algebra II M3 Lesson 14: Solving Logarithmic Equations Algebra II M3 Lesson 24: Solving Exponential Equations Algebra II M3 Lesson 27: Modeling with Exponential Functions Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited Precalculus and Advanced Topics M3 Lesson 20: Inverses of Logarithmic and Exponential Functions Precalculus and Advanced Topics M3 Lesson 21: Logarithmic and Exponential Problem Solving

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.F.LE.A.1b Understand that a logarithm is the solution to $ab^{ct} = d$, where a, b, c, and d are numbers.	Algebra II M3 Lesson 8: The "WhatPower" Function Algebra II M3 Lesson 12: Properties of Logarithms Algebra II M3 Lesson 13: Changing the Base Algebra II M3 Lesson 14: Solving Logarithmic Equations Algebra II M3 Lesson 15: Why Were Logarithms Developed? Algebra II M3 Lesson 19: The Inverse Relationship Between Logarithmic and Exponential Functions Algebra II M3 Lesson 24: Solving Exponential Equations Algebra II M3 Lesson 27: Modeling with Exponential Functions Algebra II M3 Lesson 28: Newton's Law of Cooling, Revisited Precalculus and Advanced Topics M3 Lesson 20: Inverses of Logarithmic and Exponential Functions Precalculus and Advanced Topics M3 Lesson 21: Logarithmic and Exponential Problem Solving
A2.F.LE.A.1c Evaluate logarithms using technology.	Algebra II M3 Lesson 10: Building Logarithmic Tables Algebra II M3 Lesson 11: The Most Important Property of Logarithms Algebra II M3 Lesson 13: Changing the Base
A2.F.LE.A.2 Know that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or cubically.	Algebra I M3 Lesson 5: The Power of Exponential Growth Algebra I M3 Lesson 6: Exponential Growth—U.S. Population and World Population Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates Algebra I M3 Lesson 21: Comparing Linear and Exponential Models Again Algebra II M3 Lesson 22: Choosing a Model *Supplemental material is necessary to address knowing that a quantity increasing exponentially eventually exceeds a quantity increasing cubically.*

Interpreting Categorical and Quantitative Data

A2.S.ID.A Summarize, represent, and interpret data on a single count or measurement variable.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.ID.A.1 Use statistics appropriate to the shape of the data distribution to compare center (mean, median, and/or mode) and spread (range, standard deviation) of two or more different data sets.	Algebra I M2 Lesson 3: Estimating Centers and Interpreting the Mean as a Balance Point Algebra I M2 Lesson 4: Summarizing Deviations from the Mean Algebra I M2 Lesson 5: Measuring Variability for Symmetrical Distributions Algebra I M2 Lesson 6: Interpreting the Standard Deviation Algebra I M2 Lesson 8: Comparing Distributions *Supplemental material is necessary to address mode and range.*
A2.S.ID.A.2 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages using the Empirical Rule.	Algebra II M4 Topic B: Modeling Data Distributions
A2.S.ID.A.3 Compute, interpret, and compare z-scores for normally distributed data in a real-world context.	Algebra II M4 Lesson 10: Normal Distributions Algebra II M4 Lesson 11: Normal Distributions

Interpreting Categorical and Quantitative Data

A2.S.ID.B Summarize, represent, and interpret data on two categorical and quantitative variables.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.ID.B.4 Represent data from two quantitative variables on a scatter plot, and describe how the variables are related. Fit a function to the data; use functions fitted to data to solve problems in the context of the data.	Algebra II M1 Lesson 20: Modeling Riverbeds with Polynomials Algebra II M1 Lesson 21: Modeling Riverbeds with Polynomials

Making Inferences and Justifying Conclusions

A2.S.IC.A Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.IC.A.1 Recognize the purposes of and differences among sample surveys, experiments, and observational studies.	Algebra II M4 Lesson 12: Types of Statistical Studies Algebra II M4 Lesson 23: Experiments and the Role of Random Assignment Algebra II M4 Lesson 24: Differences Due to Random Assignment Alone Algebra II M4 Lesson 25: Ruling Out Chance Algebra II M4 Lesson 26: Ruling Out Chance Algebra II M4 Lesson 27: Ruling Out Chance Algebra II M4 Lesson 28: Drawing a Conclusion from an Experiment Algebra II M4 Lesson 29: Drawing a Conclusion from an Experiment

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.IC.A.2 Identify potential sources of bias in statistical studies.	*Supplemental material is necessary to address this standard.*
A2.S.IC.A.3 Distinguish between a statistic and a parameter; evaluate reports based on data and recognize when poor conclusions are drawn from well-collected data.	Algebra II M4 Lesson 22: Evaluating Reports Based on Data from a Sample Algebra II M4 Lesson 25: Ruling Out Chance Algebra II M4 Lesson 26: Ruling Out Chance Algebra II M4 Lesson 27: Ruling Out Chance Algebra II M4 Lesson 28: Drawing a Conclusion from an Experiment Algebra II M4 Lesson 29: Drawing a Conclusion from an Experiment Algebra II M4 Lesson 30: Evaluating Reports Based on Data from an Experiment

Conditional Probability and the Rules of Probability

A2.S.CP.A Understand independence and conditional probability and use them to create visual representations of data.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.CP.A.1 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. Categorize events as independent or dependent.	Algebra II M4 Lesson 2: Calculating Probabilities of Events Using Two-Way Tables Algebra II M4 Lesson 3: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables Algebra II M4 Lesson 4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables Algebra II M4 Lesson 6: Probability Rules

Conditional Probability and the Rules of Probability

A2.S.CP.B Understand and apply basic concepts of probability.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.CP.B.2 Apply statistical counting techniques.	*This standard is fully addressed by the lessons aligned to its subsections.*
A2.S.CP.B.2a Use the Fundamental Counting Principle to compute probabilities of compound events and solve problems.	Algebra II M4 Lesson 1: Chance Experiments, Sample Spaces, and Events Precalculus and Advanced Topics M5 Lesson 2: Counting Rules—The Fundamental Counting Principle and Permutations
A2.S.CP.B.2b Use permutations and combinations to compute probabilities of compound events and solve problems.	Precalculus and Advanced Topics M5 Lesson 2: Counting Rules—The Fundamental Counting Principle and Permutations Precalculus and Advanced Topics M5 Lesson 3: Counting Rules—Combinations Precalculus and Advanced Topics M5 Lesson 4: Using Permutations and Combinations to Compute Probabilities
A2.S.CP.B.3 Use the Law of Large Numbers to assess the validity of a statistical claim.	Precalculus and Advanced Topics M5 Lesson 10: Determining Discrete Probability Distributions

Conditional Probability and the Rules of Probability

A2.S.CP.C Use the rules of probability to compute probabilities of compound events in a uniform probability model.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
A2.S.CP.C.4 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 given context.	Algebra II M4 Lesson 3: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables Algebra II M4 Lesson 4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables