Algebra II | Arkansas Mathematics Standards 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

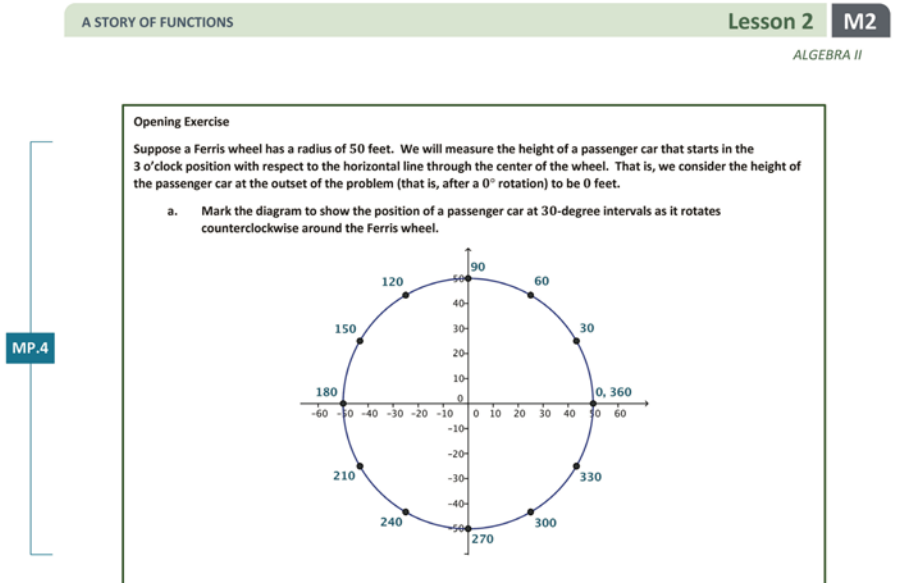
Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

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.	

Radicals and Complex Numbers

Radical Expressions and Rational Exponents

Students apply properties to radical expressions and rational exponents.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.RC.1 Explain how extending the properties of integer exponents to rational exponents provides an alternative notation for radicals.	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.RC.2 Apply the properties of exponents to translate between radical and exponential forms of expressions.	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
A2.RC.3 Simplify and perform operations with radical expressions with and without variables; rationalizing denominators should include conjugates.	Algebra II M1 Lesson 9: Radicals and Conjugates 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

Radicals and Complex Numbers

Complex Numbers

Students apply properties to complex numbers.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.RC.4 Know there is a complex number i and describe contexts from which complex numbers appear.	Algebra II M1 Topic D: A Surprise from Geometry—Complex Numbers Overcome All Obstacles
A2.RC.5 Perform the operations of addition, subtraction, multiplication, and conjugation of complex numbers.	Algebra II M1 Lesson 37: A Surprising Boost from Geometry Precalculus and Advanced Topics M1 Lesson 4: An Appearance of Complex Numbers Precalculus and Advanced Topics M1 Lesson 5: An Appearance of Complex Numbers Precalculus and Advanced Topics M1 Lesson 7: Complex Number Division Precalculus and Advanced Topics M1 Lesson 8: Complex Number Division Precalculus and Advanced Topics M1 Lesson 9: The Geometric Effect of Some Complex Arithmetic Precalculus and Advanced Topics M1 Lesson 17: The Geometric Effect of Multiplying by a Reciprocal
A2.RC.6 Use polynomial identities with complex numbers.	Algebra II M1 Lesson 39: Factoring Extended to the Complex Realm Precalculus and Advanced Topics M3 Lesson 1: Solutions to Polynomial Equations Precalculus and Advanced Topics M3 Lesson 2: Does Every Complex Number Have a Square Root? Precalculus and Advanced Topics M3 Lesson 3: Roots of Unity

Functions

Compositions

Students compose and compare functions.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.FN.1 Combine functions by addition, subtraction, multiplication, division, and composition to model the relationship between two quantities in mathematical and real-world contexts.	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 Precalculus and Advanced Topics M3 Lesson 16: Function Composition Precalculus and Advanced Topics M3 Lesson 17: Solving Problems by Functions Composition Precalculus and Advanced Topics M4 Lesson 6: Waves, Sinusoids, and Identities *Supplemental material is necessary to address combining functions by addition, subtraction, multiplication, and division in mathematical contexts.*

Functions

Transformations

Students perform transformations in the coordinate plane.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.FN.2 Decide if a function is even or odd from a graph or an algebraic expression.	Algebra II M2 Lesson 8: Graphing the Sine and Cosine Functions Algebra II M2 Lesson 10: Basic Trigonometric Identities from Graphs Algebra II M2 Lesson 14: Graphing the Tangent Function Precalculus and Advanced Topics M3 Lesson 12: End Behavior of Rational Functions
A2.FN.3 Explain how restricting the domain of a function allows the creation of its inverse.	Precalculus and Advanced Topics M3 Lesson 19: Restricting the Domain

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.FN.4 Write and graph the inverse of a given function; understand that the graph of an inverse function is a reflection of the function over the line $y = x$.	Algebra II M3 Lesson 18: Graphs of Exponential Functions and Logarithmic Functions Algebra II M3 Lesson 19: The Inverse Relationship Between Logarithmic and Exponential Functions Precalculus and Advanced Topics M3 Topic C: Inverse Functions

Linear Functions and Equations

Arithmetic Sequences

Students use arithmetic sequences to model problems.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.LFE.1 Write and use arithmetic sequences recursively and explicitly to model situations; translate between the two forms when given a graph, a description of the relationship, or two input-output pairs.	Algebra I M3 Lesson 1: Integer Sequences—Should You Believe in Patterns? Algebra I M3 Lesson 2: Recursive Formulas for Sequences Algebra I M3 Lesson 3: Arithmetic and Geometric Sequences Algebra I M5 Lesson 5: Modeling from a Sequence

Linear Functions and Equations

Matrices

Students perform operations and matrices.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.LFE.2 Multiply a matrix by a scalar.	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 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.LFE.3 Add and subtract matrices.	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 11: Matrix Addition Is Commutative

Linear Functions and Equations

Systems of Equations

Students solve systems of equations.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.LFE.4 Solve systems of linear equations in three variables using matrices; use Gaussian elimination or technology.	Algebra II M1 Lesson 30: Linear Systems in Three Variables Precalculus and Advanced Topics M2 Lesson 15: Solving Equations Involving Linear Transformations of the Coordinate Space Precalculus and Advanced Topics M2 Lesson 16: Solving General Systems of Linear Equations

Quadratic Functions, Equations and Inequalities

Create & Solve

Students create and solve problems that model quadratic relationships.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.QFE.1 Calculate and interpret the average rate of change of a quadratic function represented in a table, graph, or as an equation in the context of mathematical and real-world problems.	Algebra I M4 Lesson 8: Exploring the Symmetry in Graphs of Quadratic Functions Algebra I M4 Lesson 10: Interpreting Quadratic Functions from Graphs and Tables Algebra I M4 Lesson 17: Graphing Quadratic Functions from the Standard Form, $f(x) = ax^2 + bx + c$ Algebra I M4 Lesson 22: Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways Algebra I M5 Lesson 4: Modeling a Context from a Graph
A2.QFE.2 Solve quadratic equations with complex number solutions.	Algebra II M1 Lesson 38: Complex Numbers as Solutions to Equations Algebra II M1 Lesson 39: Factoring Extended to the Complex Realm
A2.QFE.3 Represent and solve real-world problems using quadratic inequalities.	*Supplemental material is necessary to address this standard.*

Quadratic Functions, Equations and Inequalities

Graph & Key Features

Students graph and interpret key features of equations that model quadratic relationships.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.QFE.4 Use the discriminant to determine the number and type of solutions of a quadratic equation.	Algebra I M4 Lesson 15: Using the Quadratic Formula

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.QFE.5 Sketch the graph of a quadratic function given a verbal description and show key features.	Algebra I M4 Lesson 8: Exploring the Symmetry in Graphs of Quadratic Functions Algebra I M4 Lesson 9: Graphing Quadratic Functions from Factored Form, $f(x) = a(x - m)(x - n)$ 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 23: Modeling with Quadratic Functions Algebra I M5 Lesson 2: Analyzing a Data Set Algebra I M5 Lesson 6: Modeling a Context from Data Algebra I M5 Lesson 7: Modeling a Context from Data

Quadratic Functions, Equations and Inequalities

Systems of Equations

Students solve systems of equations.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.QFE.6 Solve a system of equations consisting of a linear equation and a nonlinear equation in two variables by choosing substitution or graphically (with or without technology) as appropriate for the system of equations.	Algebra II M1 Lesson 31: Systems of Equations Algebra II M1 Lesson 32: Graphing Systems of Equations

Exponential & Logarithmic Functions & Equations

Create & Solve

Students create and solve problems that model exponential and logarithmic relationships.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.ELF.1 Use the properties of exponents to find equivalent expressions and to solve equations, including those involving rational 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
A2.ELF.2 Write and solve equations from real-world problems that can be represented as a logarithmic or exponential function in one variable.	Algebra II M3 Lesson 24: Solving Exponential Equations 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.ELF.3 Write exponential equations that model the relationship between two quantities when given a graph, a written description, or a table of values within a mathematical or real-world context.	Algebra II M3 Lesson 1: Integer Exponents Algebra II M3 Lesson 6: Euler's Number, e Algebra II M3 Lesson 22: Choosing a Model Algebra II M3 Lesson 23: Bean Counting 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
A2.ELF.4 Write and use geometric sequences recursively and explicitly to model situations; translate between the two forms when given a graph, a description of the relationship, or two input-output pairs.	Algebra I M3 Lesson 3: Arithmetic and Geometric Sequences 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

Exponential & Logarithmic Functions & Equations

Logarithms

Students define and use logarithms.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.ELF.5 Translate between logarithmic and exponential forms of an equation.	Algebra II M3 Lesson 14: Solving Logarithmic Equations Algebra II M3 Lesson 24: Solving Exponential Equations Precalculus and Advanced Topics M3 Lesson 21: Logarithmic and Exponential Problem Solving
A2.ELF.6 Use properties of logarithms to simplify and evaluate logarithmic expressions, with or without technology.	Algebra II M3 Lesson 11: The Most Important Property of Logarithms Algebra II M3 Lesson 12: Properties of Logarithms Algebra II M3 Lesson 13: Changing the Base
A2.ELF.7 Use the inverse relationship between exponents and logarithms to solve problems.	Algebra II M3 Lesson 24: Solving Exponential Equations 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

Exponential & Logarithmic Functions & Equations

Graph & Key Features

Students graph and interpret key features of exponential and logarithmic models.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.ELF.8 Determine the domain and range of logarithmic functions in mathematical problems.	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

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.ELF.9 Determine reasonable domain and range values of logarithmic functions representing real-world situations, both continuous and discrete; interpret the solution as reasonable or unreasonable in context.	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 *Supplemental material is necessary to fully address this standard.*
A2.ELF.10 Sketch the graph of an exponential function given a verbal description and show key features.	Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates 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
A2.ELF.11 Calculate and interpret the average rate of change of an exponential function represented in a table, graph, or as an equation in the context of mathematical and real-world problems.	Algebra I M3 Lesson 6: Exponential Growth—U.S. Population and World Population Algebra I M3 Lesson 21: Comparing Linear and Exponential Models Again Algebra I M3 Lesson 22: Modeling an Invasive Species Population Algebra I M5 Lesson 4: Modeling a Context from a Graph Algebra II M3 Lesson 6: Euler's Number, e Algebra II M3 Lesson 27: Modeling with Exponential Functions
A2.ELF.12 Graph exponential and logarithmic functions with and without context, identifying key features, and determining constraints in a given context.	Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates 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 Algebra II M3 Lesson 33: The Million Dollar Problem

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.ELF.13 Graph and generalize the effect of transformations on exponential and logarithmic functions.	Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions
A2.ELF.14 Given the graphs of exponential and logarithmic functions, explain the effects of the transformation from the parent function.	Algebra II M3 Lesson 20: Transformations of the Graphs of Logarithmic and Exponential Functions

Polynomial, Rational, & Other Functions & Equations

Create & Solve

Students create and solve rational and polynomial equations.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.1 Write and solve equations from real-world problems that can be represented as a rational or square root function in one variable.	Algebra II M1 Lesson 27: Word Problems Leading to Rational Equations Algebra II M1 Lesson 29: Solving Radical Equations
A2.PRF.2 Solve nonlinear formulas for a specified variable.	Algebra I M1 Lesson 19: Rearranging Formulas

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.3 Find zeros of polynomial functions with a degree of 3 or higher when suitable factorizations are available in a real-world and mathematical context.	Algebra II M1 Lesson 11: The Special Role of Zero in Factoring
A2.PRF.4 Use zeros and an understanding of multiplicity to sketch a graph of a polynomial function with a degree of 3 or higher.	Algebra II M1 Lesson 14: Graphing Factored Polynomials Algebra II M1 Lesson 15: Structure in Graphs of Polynomial Functions
A2.PRF.5 Apply the Fundamental Theorem of Algebra to determine the number and potential types of roots of polynomial functions based on the degree of the polynomial.	Algebra II M1 Lesson 40: Obstacles Resolved—A Surprising Result Precalculus and Advanced Topics M3 Lesson 1: Solutions to Polynomial Equations
A2.PRF.6 Solve rational and radical equations containing one variable specifying extraneous solutions.	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

Polynomial, Rational, & Other Functions & Equations

Graph & Key Features

Students graph and identify key features of functions.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.7 Determine the domain and range of polynomial and rational functions in mathematical problems.	Algebra II M1 Lesson 15: Structure in Graphs of Polynomial Functions Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Precalculus and Advanced Topics M3 Lesson 11: Rational Functions Precalculus and Advanced Topics M3 Lesson 13: Horizontal and Vertical Asymptotes of Graphs of Rational Functions Precalculus and Advanced Topics M3 Lesson 14: Graphing Rational Functions *Supplemental material is necessary to address determining the domain and range of polynomial functions in mathematical problems.*
A2.PRF.8 Determine reasonable domain and range values of polynomial and rational functions representing real-world situations, both continuous and discrete; interpret the solution as reasonable or unreasonable in context.	Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction
A2.PRF.9 Interpret the key features of polynomial functions that model a relationship between two quantities in a given context; translate between different representations of the function, especially graphs, tables, and equations.	Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.10 Sketch the graph of a polynomial function given a verbal description and show key features.	Algebra II M1 Lesson 15: Structure in Graphs of Polynomial Functions Algebra II M1 Lesson 16: Modeling with Polynomials—An Introduction Algebra II M1 Lesson 17: Modeling with Polynomials—An Introduction
A2.PRF.11 Calculate and interpret the average rate of change of polynomial functions represented in a table, graph, or as an equation in context of mathematical and real-world problems.	*Supplemental material is necessary to address this standard.*
A2.PRF.12 Graph functions with and without context, identifying key features and determining constraints in a given context.	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 Precalculus and Advanced Topics M3 Lesson 12: End Behavior of Rational Functions Precalculus and Advanced Topics M3 Lesson 13: Horizontal and Vertical Asymptotes of Graphs of Rational Functions Precalculus and Advanced Topics M3 Lesson 14: Graphing Rational Functions Precalculus and Advanced Topics M3 Lesson 15: Transforming Rational Functions
A2.PRF.13 Graph and generalize the effect of transformations on square root, cubic, and rational functions.	Algebra I M4 Lesson 19: Translating Graphs of Functions Algebra I M4 Lesson 20: Stretching and Shrinking Graphs of Functions Precalculus and Advanced Topics M3 Lesson 15: Transforming Rational Functions
A2.PRF.14 Given a graph, explain the effects of the transformation from the parent function.	Algebra I M4 Lesson 19: Translating Graphs of Functions Algebra I M4 Lesson 20: Stretching and Shrinking Graphs of Functions Precalculus and Advanced Topics M3 Lesson 15: Transforming Rational Functions

Polynomial, Rational, & Other Functions & Equations

Factor Polynomials

Students factor polynomials.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.15 Apply the Remainder Theorem to factor and create equivalent forms of polynomial functions.	Algebra II M1 Lesson 19: The Remainder Theorem
A2.PRF.16 Verify polynomial identities and use them to describe numerical relationships.	Algebra II M1 Lesson 2: The Multiplication of Polynomials Algebra II M1 Lesson 3: The Division of Polynomials Algebra II M1 Lesson 6: Dividing by $x - a$ and by $x + a$ Algebra II M1 Lesson 7: Mental Math Algebra II M1 Lesson 8: The Power of Algebra—Finding Primes Algebra II M1 Lesson 10: The Power of Algebra—Finding Pythagorean Triples

Polynomial, Rational, & Other Functions & Equations

Rational Expressions

Students perform operations on rational expressions.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.17 Apply understanding of rational number operations to add, subtract, multiply, and divide by nonzero rational expressions.	Algebra II M1 Lesson 24: Multiplying and Dividing Rational Expressions Algebra II M1 Lesson 25: Adding and Subtracting Rational Expressions Precalculus and Advanced Topics M3 Lesson 10: The Structure of Rational Expressions

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.18 Rewrite simple rational expressions in different forms.	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
A2.PRF.19 Divide polynomial expressions using inspection, long division, and synthetic division, with and without a remainder.	Algebra II M1 Lesson 3: The Division of Polynomials Algebra II M1 Lesson 4: Comparing Methods—Long Division, Again? Algebra II M1 Lesson 5: Putting It All Together Algebra II M1 Lesson 6: Dividing by $x - a$ and by $x + a$ *Supplemental material is necessary to address dividing polynomial expressions using synthetic division.*

Polynomial, Rational, & Other Functions & Equations

Systems of Equations

Students solve systems of equations.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.PRF.20 Explain why a solution to the equation $f(x) = g(x)$ is the x-coordinate where the y-coordinate of $f(x)$ and $g(x)$ are the same using graphs, tables, or approximations.	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

Statistics & Probability

Statistical Experiments & Studies

Students evaluate processes for statistical experiments, make inferences, and justify conclusions from statistical studies.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.SP.1 Use data from a random sample to make inferences about a population.	Algebra II M4 Lesson 13: Using Sample Data to Estimate a Population Characteristic Algebra II M4 Lesson 14: Sampling Variability in the Sample Proportion Algebra II M4 Lesson 15: Sampling Variability in the Sample Proportion Algebra II M4 Lesson 16: Margin of Error When Estimating a Population Proportion Algebra II M4 Lesson 17: Margin of Error When Estimating a Population Proportion Algebra II M4 Lesson 18: Sampling Variability in the Sample Mean Algebra II M4 Lesson 19: Sampling Variability in the Sample Mean Algebra II M4 Lesson 20: Margin of Error When Estimating a Population Mean Algebra II M4 Lesson 21: Margin of Error When Estimating a Population Mean
A2.SP.2 Compare theoretical and empirical probabilities using simulations.	*Supplemental material is necessary to address this standard.*
A2.SP.3 Distinguish between sample surveys, experiments, and observational studies and explain the purpose of randomization in statistical studies.	Algebra II M4 Lesson 12: Types of Statistical Studies
A2.SP.4 Read and explain, in context, the validity of data from outside reports by:	*This standard is addressed by the lessons aligned to its subsections.*

Arkansas Mathematics Standards	Aligned Components of *Eureka Math*
A2.SP.4.1 Identifying the variables as quantitative or categorical.	Algebra II M4 Lesson 22: Evaluating Reports Based on Data from a Sample
A2.SP.4.2 Describing how the data was collected.	Algebra II M4 Lesson 22: Evaluating Reports Based on Data from a Sample
A2.SP.4.3 Indicating any potential biases or flaws.	*Supplemental material is necessary to address this standard.*
A2.SP.4.4 Identifying inferences the author of the report made from sample data.	Algebra II M4 Lesson 22: Evaluating Reports Based on Data from a Sample