7–8 | Alabama Standards for Mathematical Content Correlation to *Eureka Math²®*

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

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

Teachability

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

Accessibility

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

Digital Engagement

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

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

Proportional Reasoning

Analyze proportional relationships and use them to solve real-world and mathematical problems.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.PR.1 Calculate unit rates of length, area, and other quantities measured in like or different units that include ratios or fractions.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships
7.PR.2 Represent a relationship between two quantities and determine whether the two quantities are related proportionally.	*This standard is fully addressed by the lessons aligned to its subsections.*
7.PR.2.a Use equivalent ratios displayed in a table or in a graph of the relationship in the coordinate plane to determine whether a relationship between two quantities is proportional.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 19: Proportional Reasoning and Percents
7.PR.2.b Identify the constant of proportionality (unit rate) and express the proportional relationship using multiple representations including tables, graphs, equations, diagrams, and verbal descriptions.	7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships 7–8 M2 Lesson 16: Applying Proportional Reasoning 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.PR.2.c Explain in context the meaning of a point (x, y) on the graph of a proportional relationship, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships
7.PR.3 Solve multi-step percent problems in context using proportional reasoning, including simple interest, tax, gratuities, commissions, fees, markups and markdowns, percent increase, and percent decrease.	7–8 M2 Topic D: Percents and Proportional Relationships

Number Systems and Operations

Apply and extend prior knowledge of addition, subtraction, multiplication, and division to operations with rational numbers.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.NSO.4 Apply and extend knowledge of operations of whole numbers, fractions, and decimals to add, subtract, multiply, and divide rational numbers including integers, signed fractions, and decimals.	7–8 M1 Topic A: Add and Subtract Rational Numbers 7–8 M1 Topic B: Multiply and Divide Rational Numbers

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.NSO.4.a Identify and explain situations where the sum of opposite quantities is 0 and opposite quantities are defined as additive inverses.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers
7.NSO.4.b Interpret the sum of two or more rational numbers, by using a number line and in real-world contexts.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers
7.NSO.4.c Explain subtraction of rational numbers as addition of additive inverses.	7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers
7.NSO.4.d Use a number line to demonstrate that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	7–8 M1 Lesson 3: Finding Distances to Find Differences
7.NSO.4.e Extend strategies of multiplication to rational numbers to develop rules for multiplying signed numbers, showing that the properties of the operations are preserved.	7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.NSO.4.f Divide integers and explain that division by zero is undefined. Interpret the quotient of integers (with a non-zero divisor) as a rational number.	7–8 M1 Lesson 8: Dividing Integers and Rational Numbers
7.NSO.4.g Convert a rational number to a decimal using long division, explaining that the decimal form of a rational number terminates or eventually repeats.	7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers
7.NSO.5 Solve real-world and mathematical problems involving the four operations of rational numbers, including complex fractions. Apply properties of operations as strategies where applicable.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers 7–8 M1 Lesson 3: Finding Distances to Find Differences 7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers 7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 8: Dividing Integers and Rational Numbers

Number Systems and Operations

Understand that the real number system is composed of rational and irrational numbers.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.NSO.1 Define the real number system as composed of rational and irrational numbers.	7–8 M1 Lesson 22: Rational and Irrational Numbers
8.NSO.1.a Explain that every number has a decimal expansion; for rational numbers, the decimal expansion repeats or terminates.	7–8 M1 Lesson 22: Rational and Irrational Numbers
8.NSO.1.b Convert a decimal expansion that repeats into a rational number.	7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions
8.NSO.2 Locate rational approximations of irrational numbers on a number line, compare their sizes, and estimate the values of the irrational numbers.	7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 22: Rational and Irrational Numbers

Algebra and Functions

Create equivalent expressions using the properties of operations.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.AF.6 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations
7.AF.7 Generate expressions in equivalent forms based on context and explain how the quantities are related.	7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations 7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip 7–8 M2 Lesson 22: Percent Increase and Percent Decrease

Algebra and Functions

Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.AF.8 Solve multi-step real-world and mathematical problems involving rational numbers (integers, signed fractions and decimals), converting between forms as needed. Assess the reasonableness of answers using mental computation and estimation strategies.	7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 23: What Is the Best Deal?

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.AF.9 Use variables to represent quantities in real-world or mathematical problems and construct algebraic expressions, equations, and inequalities to solve problems by reasoning about the quantities.	7–8 M2 Lesson 3: Solving Equations 7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7.AF.9.a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 3: Solving Equations 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7.AF.9.b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality, and interpret it in the context of the problem.	7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities

Algebra and Functions

Apply concepts of integer exponents and radicals.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.3 Develop and apply properties of integer exponents to generate equivalent numerical and algebraic expressions.	7–8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents 7–8 M1 Lesson 12: More Properties of Exponents 7–8 M1 Lesson 13: Making Sense of Integer Exponents
8.AF.4 Use square root and cube root symbols to represent solutions to equations.	7–8 M1 Lesson 18: Solving Equations with Squares and Cubes 7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
8.AF.4.a Evaluate square roots of perfect squares (less than or equal to 225) and cube roots of perfect cubes (less than or equal to 1,000).	7–8 M1 Lesson 18: Solving Equations with Squares and Cubes 7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
8.AF.4.b Explain that the square root of a non-perfect square is irrational.	7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 22: Rational and Irrational Numbers 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
8.AF.5 Estimate and compare very large or very small numbers in scientific notation.	7–8 M1 Lesson 10: Large and Small Positive Numbers 7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation 7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.6 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.	7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point
8.AF.6.a Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.	7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point
8.AF.6.b Interpret scientific notation that has been generated by technology.	7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation

Algebra and Functions

Analyze the relationship between proportional and non-proportional situations.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.7 Determine whether a relationship between two variables is proportional or non-proportional.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 19: Proportional Reasoning and Percents
8.AF.8 Graph proportional relationships.	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M4 Lesson 5: Proportional Relationships and Slope

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.8.a Interpret the unit rate of a proportional relationship, describing the constant of proportionality as the slope of the graph which goes through the origin and has the equation $y = mx$ where m is the slope.	7–8 M4 Lesson 5: Proportional Relationships and Slope
8.AF.9 Interpret $y = mx + b$ as defining a linear equation whose graph is a line with m as the slope and b as the y-intercept.	7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines 7–8 M4 Lesson 7: Using Coordinates to Find Slope 7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line
8.AF.9.a Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in a coordinate plane.	7–8 M4 Lesson 5: Proportional Relationships and Slope 7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines 7–8 M4 Lesson 7: Using Coordinates to Find Slope
8.AF.9.b Given two distinct points in a coordinate plane, find the slope of the line containing the two points and explain why it will be the same for any two distinct points on the line.	7–8 M4 Lesson 7: Using Coordinates to Find Slope

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.9.c Graph linear relationships, interpreting the slope as the rate of change of the graph and the y-intercept as the initial value.	7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line 7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.AF.9.d Given that the slopes for two different sets of points are equal, demonstrate that the linear equations that include those two sets of points may have different y-intercepts.	7–8 M4 Lesson 12: Identifying Solutions 8 M4 Lesson 21: Slope and Parallel Lines
8.AF.10 Compare proportional and non-proportional linear relationships represented in different ways (algebraically, graphically, numerically in tables, or by verbal descriptions) to solve real-world problems.	7–8 M4 Lesson 4: Comparing Proportional Relationships *Supplemental material is necessary to fully address this standard.*

Algebra and Functions

Analyze and solve linear equations and systems of two linear equations.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.11 Solve multi-step linear equations in one variable, including rational number coefficients, and equations that require using the distributive property and combining like terms.	7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions 7–8 M2 Topic B: Multi-Step Equations and Their Solutions
8.AF.11.a Determine whether linear equations in one variable have one solution, no solution, or infinitely many solutions of the form $x = a$, $a = a$, or $a = b$ (where a and b are different numbers).	7–8 M2 Lesson 8: Solving Equations with Rational Coefficients 7–8 M2 Lesson 9: Linear Equations with More Than One Solution 7–8 M2 Lesson 10: Another Possible Number of Solutions
8.AF.11.b Represent and solve real-world and mathematical problems with equations and interpret each solution in the context of the problem.	7–8 M2 Lesson 7: Solving Multi-Step Equations 7–8 M2 Lesson 8: Solving Equations with Rational Coefficients 7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems
8.AF.12 Solve systems of two linear equations in two variables by graphing and substitution.	7–8 M4 Topic C: Solving Systems of Linear Equations 7–8 M4 Topic D: Writing and Solving Systems of Linear Equations

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.12.a Explain that the solution(s) of systems of two linear equations in two variables corresponds to points of intersection on their graphs because points of intersection satisfy both equations simultaneously.	7–8 M4 Lesson 11: Introduction to Systems of Linear Equations 7–8 M4 Lesson 12: Identifying Solutions 7–8 M4 Lesson 13: More Than One Solution 7–8 M4 Lesson 16: Choosing a Solution Method 7–8 M4 Lesson 19: Back to the Coordinate Plane 7–8 M4 Lesson 20: Modeling a Real-World Problem
8.AF.12.b Interpret and justify the results of systems of two linear equations in two variables (one solution, no solution, or infinitely many solutions) when applied to real-world and mathematical problems.	7–8 M4 Lesson 12: Identifying Solutions 7–8 M4 Lesson 13: More Than One Solution 7–8 M4 Lesson 14: Solving Systems of Linear Equations Without Graphing 7–8 M4 Lesson 16: Choosing a Solution Method 7–8 M4 Lesson 17: Writing and Solving Systems of Equations for Mathematical Problems 7–8 M4 Lesson 18: Writing and Solving Systems of Equations for Real-World Problems 7–8 M4 Lesson 20: Modeling a Real-World Problem

Algebra and Functions

Explain, evaluate, and compare functions.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.13 Determine whether a relation is a function, defining a function as a rule that assigns to each input (independent value) exactly one output (dependent value), and given a graph, table, mapping, or set of ordered pairs.	7–8 M5 Lesson 1: Motion and Speed 7–8 M5 Lesson 2: Definition of a Function 7–8 M5 Lesson 4: More Examples of Functions 7–8 M5 Lesson 5: Graphs of Functions and Equations *Supplemental material is necessary to address the term* relation *and determining whether a relation is a function given a mapping.*
8.AF.14 Evaluate functions defined by a rule or an equation, given values for the independent variable.	7–8 M5 Lesson 2: Definition of a Function 7–8 M5 Lesson 3: Linear Functions and Proportionality 7–8 M5 Lesson 5: Graphs of Functions and Equations
8.AF.15 Compare properties of functions represented algebraically, graphically, numerically in tables, or by verbal descriptions.	7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 8: Comparing Functions
8.AF.15.a Distinguish between linear and non-linear functions.	7–8 M5 Lesson 3: Linear Functions and Proportionality 7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 10: Graphs of Nonlinear Functions

Algebra and Functions

Use functions to model relationships between quantities.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.AF.16 Construct a function to model a linear relationship between two variables.	7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.AF.16.a Interpret the rate of change (slope) and initial value of the linear function from a description of a relationship or from two points in a table or graph.	7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.AF.17 Analyze the relationship (increasing or decreasing, linear or non-linear) between two quantities represented in a graph.	7–8 M5 Lesson 9: Increasing and Decreasing Functions 7–8 M5 Lesson 10: Graphs of Nonlinear Functions

Data Analysis, Statistics, and Probability

Make inferences about a population using random sampling.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.10 Examine a sample of a population to generalize information about the population.	7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.10.a Differentiate between a sample and a population.	7–8 M6 Lesson 10: Populations and Samples
7.DSP.10.b Compare sampling techniques to determine whether a sample is random and thus representative of a population, explaining that random sampling tends to produce representative samples and support valid inferences.	7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean
7.DSP.10.c Determine whether conclusions and generalizations can be made about a population based on a sample.	7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean
7.DSP.10.d Use data from a random sample to draw inferences about a population with an unknown characteristic of interest, generating multiple samples to gauge variation and making predictions or conclusions about the population.	7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean 7–8 M6 Lesson 13: Sampling Variability and the Effect of Sample Size 7–8 M6 Lesson 14: Sampling Variability When Estimating a Population Proportion
7.DSP.10.e Informally explain situations in which statistical bias may exist.	*Supplemental material is necessary to address this standard.*

Data Analysis, Statistics, and Probability

Make inferences from an informal comparison of two populations.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.11 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	7–8 M6 Topic D: Comparing Populations
7.DSP.12 Make informal comparative inferences about two populations using measures of center and variability and/or mean absolute deviation in context.	7–8 M6 Topic D: Comparing Populations

Data Analysis, Statistics, and Probability

Investigate probability models.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.13 Use a number from 0 to 1 to represent the probability of a chance event occurring, explaining that larger numbers indicate greater likelihood of the event occurring, while a number near zero indicates an unlikely event.	7–8 M6 Lesson 1: What Is Probability?

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.14 Define and develop a probability model, including models that may or may not be uniform, where uniform models assign equal probability to all outcomes and non-uniform models involve events that are not equally likely.	7–8 M6 Lesson 3: Theoretical Probability
7.DSP.14.a Collect and use data to predict probabilities of events.	7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 7: Picking Blue
7.DSP.14.b Compare probabilities from a model to observed frequencies, explaining possible sources of discrepancy.	7–8 M6 Lesson 6: The Law of Large Numbers
7.DSP.15 Approximate the probability of an event using data generated by a simulation (experimental probability) and compare it to the theoretical probability.	7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 7: Picking Blue
7.DSP.15.a Observe the relative frequency of an event over the long run, using simulation or technology, and use those results to predict approximate relative frequency.	7–8 M6 Lesson 6: The Law of Large Numbers

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.DSP.16 Find probabilities of simple and compound events through experimentation or simulation and by analyzing the sample space, representing the probabilities as percents, decimals, or fractions.	7–8 M6 Lesson 3: Theoretical Probability 7–8 M6 Lesson 4: Multistage Experiments
7.DSP.16.a Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams, and determine the probability of an event by finding the fraction of outcomes in the sample space for which the compound event occurred.	7–8 M6 Lesson 4: Multistage Experiments
7.DSP.16.b Design and use a simulation to generate frequencies for compound events.	7–8 M6 Lesson 8: Probability Simulations 7–8 M6 Lesson 9: Simulations with Random Number Tables
7.DSP.16.c Represent events described in everyday language in terms of outcomes in the sample space which composed the event.	7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 3: Theoretical Probability 7–8 M6 Lesson 4: Multistage Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely

Data Analysis, Statistics, and Probability

Investigate patterns of association in bivariate data.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.DSP.18 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities, describing patterns in terms of positive, negative, or no association, linear and non-linear association, clustering, and outliers.	7–8 M6 Lesson 18: Scatter Plots 7–8 M6 Lesson 19: Patterns in Scatter Plots
8.DSP.19 Given a scatter plot that suggests a linear association, informally draw a line to fit the data, and assess the model fit by judging the closeness of the data points to the line.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models
8.DSP.20 Use a linear model of a real-world situation to solve problems and make predictions.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models
8.DSP.20.a Describe the rate of change and y-intercept in the context of a problem using a linear model of a real-world situation.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.DSP.21 Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects, using relative frequencies calculated for rows or columns to describe possible associations between the two variables.	7–8 M6 Topic F: Bivariate Categorical Data

Geometry and Measurement

Construct and describe geometric figures, analyzing relationships among them.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.GM.17 Solve problems involving scale drawings of geometric figures, including computation of actual lengths and areas from a scale drawing and reproduction of a scale drawing at a different scale.	7–8 M3 Topic D: Scale Drawings and Dilations

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.GM.18 Construct geometric shapes (freehand, using a ruler and a protractor, and using technology), given a written description or measurement constraints with an emphasis on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures 7–8 M3 Lesson 2: Conditions of Unique Triangles 7–8 M3 Lesson 3: Exploring and Constructing Circles
7.GM.19 Describe the two-dimensional figures created by slicing three-dimensional figures into plane sections.	7–8 M5 Lesson 13: Understanding Planes and Cross Sections 7–8 M5 Lesson 14: Cross Section Scavenger Hunt 7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections

Geometry and Measurement

Solve real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.GM.20 Explain the relationships among circumference, diameter, area, and radius of a circle to demonstrate understanding of formulas for the area and circumference of a circle.	7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
7.GM.20.a Informally derive the formula for area of a circle.	7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions
7.GM.20.b Solve area and circumference problems in real-world and mathematical situations involving circles.	7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions 7–8 M3 Lesson 6: Watering a Lawn
7.GM.21 Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to write and solve simple equations for an unknown angle in a figure.	7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations 7–8 M2 Lesson 7: Solving Multi-Step Equations
7.GM.22 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right rectangular prisms.	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Lesson 16: Volume of Prisms 7–8 M5 Lesson 18: Designing a Fish Tank 7–8 M5 Lesson 21: Volume of Composite Solids

Geometry and Measurement

Understand congruence and similarity using physical models or technology.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.GM.22 Verify experimentally the properties of rigid motions (rotations, reflections, and translations): lines are taken to lines, and line segments are taken to line segments of the same length; angles are taken to angles of the same measure; and parallel lines are taken to parallel lines.	7–8 M3 Lesson 7: Motions of the Plane 7–8 M3 Lesson 8: Translations, Reflections, and Rotations 7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane 7–8 M3 Lesson 10: Sequencing the Rigid Motions
8.GM.22.a Given a pair of two-dimensional figures, determine if a series of rigid motions maps one figure onto the other, recognizing that if such a sequence exists the figures are congruent; describe the transformation sequence that verifies a congruence relationship.	7–8 M3 Lesson 10: Sequencing the Rigid Motions 7–8 M3 Lesson 11: Showing Figures Are Congruent 7–8 M3 Lesson 12: Lines Cut by a Transversal
8.GM.23 Use coordinates to describe the effect of transformations (dilations, translations, rotations, and reflections) on two-dimensional figures.	7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane 7–8 M3 Lesson 22: Dilations 7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations 7–8 M3 Lesson 24: Figures and Dilations 7–8 M3 Lesson 25: The Shadowy Hand 7–8 M3 Lesson 26: Dilations on the Coordinate Plane

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.GM.24 Given a pair of two-dimensional figures, determine if a series of dilations and rigid motions maps one figure onto the other, recognizing that if such a sequence exists the figures are similar; describe the transformation sequence that exhibits the similarity between them.	7–8 M3 Lesson 27: Similar Figures 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles

Geometry and Measurement

Analyze parallel lines cut by a transversal.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.GM.25 Analyze and apply properties of parallel lines cut by a transversal to determine missing angle measures.	7–8 M3 Lesson 12: Lines Cut by a Transversal 7–8 M3 Lesson 13: Angle Sum of a Triangle
8.GM.25.a Use informal arguments to establish that the sum of the interior angles of a triangle is 180 degrees.	7–8 M3 Lesson 13: Angle Sum of a Triangle

Geometry and Measurement

Understand and apply the Pythagorean Theorem.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.GM.26 Informally justify the Pythagorean Theorem and its converse.	7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M3 Lesson 15: Proving the Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem
8.GM.27 Apply the Pythagorean Theorem to find the distance between two points in a coordinate plane.	7–8 M3 Lesson 17: Applications of the Pythagorean Theorem
8.GM.28 Apply the Pythagorean Theorem to determine unknown side lengths of right triangles, including real-world applications.	7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem 7–8 M3 Lesson 17: Applications of the Pythagorean Theorem 7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths 7–8 M5 Lesson 19: Volumes of Pyramids and Cones

Geometry and Measurement

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Alabama Standards for Mathematical Content	Aligned Components of *Eureka Math²*
8.GM.29 Informally derive the formulas for the volume of cones and spheres by experimentally comparing the volumes of cones and spheres with the same radius and height to a cylinder with the same dimensions.	7–8 M5 Lesson 19: Volumes of Pyramids and Cones 7–8 M5 Lesson 20: Volume of Spheres
8.GM.30 Use formulas to calculate the volumes of three-dimensional figures (cylinders, cones, and spheres) to solve real-world problems.	7–8 M5 Topic D: Volume