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## Grade 7–8 | Pennsylvania Core Standards Mathematics (2014) Correlation to *Eureka Math*<sup>2</sup>® (2027)

*Eureka Math*<sup>2</sup> is a research-proven math curriculum that empowers teachers to center instructional techniques on student success. Teachers can foster more “aha!” learning moments by providing the support needed for all learners to build a more confident math mindset.

This *Eureka Math*<sup>2</sup> edition builds on a strong foundation of effective instruction. It provides teachers with guidance on delivering rigorous instruction that honors student choice and encourages confident problem-solving.

*Eureka Math*<sup>2</sup> carefully sequences mathematical content to maximize vertical alignment from kindergarten through high school. This kind of sequencing has proven to be essential in students’ mastery of math.

### Teachability

*Eureka Math*<sup>2</sup> 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 into the teacher materials.

### Accessibility

*Eureka Math*<sup>2</sup> incorporates Universal Design for Learning (UDL) principles so all learners can access the mathematics and take on challenging math concepts. UDL, Differentiation, and Multilingual Learner supports are built into the instructional design and are clearly identified in the *Teach* book.

The curriculum also carries a focus on readability. By eliminating unnecessary words and using clear sentences, the *Eureka Math*<sup>2</sup> 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.

### Math Confidence

*Eureka Math*<sup>2</sup> fosters a classroom culture of learning by encouraging student-led discourse and cognitive engagement that results in confident learners. By leveraging consistent models, routines, and progressions, teachers can remove barriers and allow all students an avenue to success. Within the digital platform, each grade includes wordless videos and digital interactives that spark students’ curiosity and help them make conceptual connections. Using the *Learn* books, students wonder, explore, and make sense of mathematics, which helps them develop a strong, positive mathematical identity.

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

## Numbers and Operations

### CC.2.1.7.D Ratios and Proportional Relationships

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.1.7.D.1</b></p> <p>Analyze proportional relationships and use them to model and solve real-world and mathematical problems.</p>	<p>7–8 M2 Lesson 12: An Experiment with Ratios and Rates</p> <p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p> <p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p> <p>7–8 M2 Lesson 20: Commissions, Fees, and Taxes</p> <p>7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip</p> <p>7–8 M2 Lesson 22: Percent Increase and Percent Decrease</p> <p>7–8 M2 Lesson 23: What Is the Best Deal?</p> <p>7–8 M2 Lesson 24: Simple Interest</p> <p>7–8 M2 Lesson 25: Applying Percent Error</p>

## Numbers and Operations

### CC.2.1.7.E The Number System

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.1.7.E.1</b></p> <p>Apply and extend previous understandings of operations with fractions to operations with rational numbers.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p> <p>7–8 M1 Lesson 2: KAKOOMA<sup>®</sup> with Rational Numbers</p> <p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p> <p>7–8 M1 Lesson 4: Subtracting Integers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p> <p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division</p> <p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p> <p>7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p>

## Numbers and Operations

### CC.2.1.8.E The Number System

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.1.8.E.1</b></p> <p>Distinguish between rational and irrational numbers using their properties.</p>	<p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p> <p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p>
<p><b>CC.2.1.8.E.4</b></p> <p>Estimate irrational numbers by comparing them to rational numbers.</p>	<p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p>

## Algebraic Concepts

### CC.2.2.7.B Expressions and Equations

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.2.7.B.1</b></p> <p>Apply properties of operations to generate equivalent expressions.</p>	<p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip</p> <p>7–8 M2 Lesson 22: Percent Increase and Percent Decrease</p>
<p><b>CC.2.2.7.B.3</b></p> <p>Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 3: Solving Equations</p> <p>7–8 M2 Lesson 4: Using Equations to Solve Inequalities</p> <p>7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities</p> <p>7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 23: What Is the Best Deal?</p>

## Algebraic Concepts

### CC.2.2.8.B Expressions and Equations

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.2.8.B.1</b></p> <p>Apply concepts of radicals and integer exponents to generate equivalent expressions.</p>	<p>7–8 M1 Lesson 10: Large and Small Positive Numbers</p> <p>7–8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents</p> <p>7–8 M1 Lesson 12: More Properties of Exponents</p> <p>7–8 M1 Lesson 13: Making Sense of Integer Exponents</p> <p>7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation</p> <p>7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 17: Get to the Point</p> <p>7–8 M1 Lesson 18: Solving Equations with Squares and Cubes</p> <p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p>
<p><b>CC.2.2.8.B.2</b></p> <p>Understand the connections between proportional relationships, lines, and linear equations.</p>	<p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p> <p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p> <p>7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines</p> <p>7–8 M4 Lesson 7: Using Coordinates to Find Slope</p> <p>7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line</p>

**Pennsylvania Core Standards  
Mathematics**

**Aligned Components of *Eureka Math*<sup>2</sup>**

<p><b>CC.2.2.8.B.3</b></p> <p>Analyze and solve linear equations and pairs of simultaneous linear equations.</p>	<p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p> <p>7–8 M2 Lesson 7: Solving Multi-Step Equations</p> <p>7–8 M2 Lesson 8: Solving Equations with Rational Coefficients</p> <p>7–8 M2 Lesson 9: Linear Equations with More Than One Solution</p> <p>7–8 M2 Lesson 10: Another Possible Number of Solutions</p> <p>7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems</p> <p>7–8 M4 Lesson 11: Introduction to Systems of Linear Equations</p> <p>7–8 M4 Lesson 12: Identifying Solutions</p> <p>7–8 M4 Lesson 13: More Than One Solution</p> <p>7–8 M4 Lesson 14: Solving Systems of Linear Equations Without Graphing</p> <p>7–8 M4 Lesson 15: The Substitution Method</p> <p>7–8 M4 Lesson 16: Choosing a Solution Method</p> <p>7–8 M4 Lesson 17: Writing and Solving Systems of Equations for Mathematical Problems</p> <p>7–8 M4 Lesson 18: Writing and Solving Systems of Equations for Real-World Problems</p> <p>7–8 M4 Lesson 19: Back to the Coordinate Plane</p> <p>7–8 M4 Lesson 20: Modeling a Real-World Problem</p>
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## Algebraic Concepts

### CC.2.2.8.C Functions

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.2.8.C.1</b> Define, evaluate, and compare functions.</p>	<p>7–8 M5 Lesson 1: Motion and Speed                      7–8 M5 Lesson 2: Definition of a Function                      7–8 M5 Lesson 3: Linear Functions and Proportionality                      7–8 M5 Lesson 4: More Examples of Functions                      7–8 M5 Lesson 5: Graphs of Functions and Equations                      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 8: Comparing Functions                      7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>
<p><b>CC.2.2.8.C.2</b> Use concepts of functions to model relationships between quantities.</p>	<p>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 9: Increasing and Decreasing Functions                      7–8 M5 Lesson 10: Graphs of Nonlinear Functions                      7–8 M5 Lesson 23: Applications of Volume</p>

## Geometry

### CC.2.3.7.A Geometry

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.3.7.A.1</b></p> <p>Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 7: Solving Multi-Step Equations</p> <p>7–8 M3 Lesson 3: Exploring and Constructing Circles</p> <p>7–8 M3 Lesson 4: Area and Circumference of a Circle</p> <p>7–8 M3 Lesson 5: Area and Circumference of Circular Regions</p> <p>7–8 M3 Lesson 6: Watering a Lawn</p> <p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p> <p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p>
<p><b>CC.2.3.7.A.2</b></p> <p>Visualize and represent geometric figures and describe the relationships between them.</p>	<p>7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures</p> <p>7–8 M3 Lesson 2: Conditions of Unique Triangles</p> <p>7–8 M3 Lesson 3: Exploring and Constructing Circles</p> <p>7–8 M3 Lesson 18: Scale Drawings</p> <p>7–8 M3 Lesson 19: Finding Actual Distances from a Scale Drawing</p> <p>7–8 M3 Lesson 20: Scale and Scale Factor</p> <p>7–8 M3 Lesson 21: Modeling with Scale Drawings</p> <p>7–8 M3 Lesson 22: Dilations</p> <p>7–8 M5 Lesson 13: Understanding Planes and Cross Sections</p> <p>7–8 M5 Lesson 14: Cross Section Scavenger Hunt</p> <p>7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections</p>

## Geometry

### CC.2.3.8.A Geometry

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.3.8.A.1</b></p> <p>Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</p>	<p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 17: Volume of Cylinders</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p> <p>7–8 M5 Lesson 20: Volume of Spheres</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p> <p>7–8 M5 Lesson 22: Volumes of Truncated Cones and Pyramids</p> <p>7–8 M5 Lesson 23: Applications of Volume</p>
<p><b>CC.2.3.8.A.2</b></p> <p>Understand and apply congruence, similarity, and geometric transformations using various tools.</p>	<p>7–8 M3 Lesson 7: Motions of the Plane</p> <p>7–8 M3 Lesson 8: Translations, Reflections, and Rotations</p> <p>7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane</p> <p>7–8 M3 Lesson 10: Sequencing the Rigid Motions</p> <p>7–8 M3 Lesson 11: Showing Figures Are Congruent</p> <p>7–8 M3 Lesson 12: Lines Cut by a Transversal</p> <p>7–8 M3 Lesson 22: Dilations</p> <p>7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations</p> <p>7–8 M3 Lesson 24: Figures and Dilations</p> <p>7–8 M3 Lesson 25: The Shadowy Hand</p> <p>7–8 M3 Lesson 26: Dilations on the Coordinate Plane</p> <p>7–8 M3 Lesson 27: Similar Figures</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p>

**Pennsylvania Core Standards  
Mathematics**

**Aligned Components of *Eureka Math*<sup>2</sup>**

<p><b>CC.2.3.8.A.3</b> Understand and apply the Pythagorean Theorem to solve problems.</p>	<p>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 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</p>
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**Measurement, Data, and Probability**

**CC.2.4.7.B Statistics and Probability**

**Pennsylvania Core Standards  
Mathematics**

**Aligned Components of *Eureka Math*<sup>2</sup>**

<p><b>CC.2.4.7.B.1</b> Draw inferences about populations based on random sampling concepts.</p>	<p>7–8 M6 Lesson 10: Populations and Samples 7–8 M6 Lesson 11: Selecting a Sample 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</p>
<p><b>CC.2.4.7.B.2</b> Draw informal comparative inferences about two populations.</p>	<p>7–8 M6 Lesson 15: Comparing Sample Means 7–8 M6 Lesson 16: Comparing Population Means 7–8 M6 Lesson 17: Memory Games</p>

<b>Pennsylvania Core Standards Mathematics</b>	<b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b>
<p><b>CC.2.4.7.B.3</b></p> <p>Investigate chance processes and develop, use, and evaluate probability models.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p> <p>7–8 M6 Lesson 2: Outcomes of Chance Experiments</p> <p>7–8 M6 Lesson 3: Theoretical Probability</p> <p>7–8 M6 Lesson 4: Multistage Experiments</p> <p>7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely</p> <p>7–8 M6 Lesson 6: The Law of Large Numbers</p> <p>7–8 M6 Lesson 7: Picking Blue</p> <p>7–8 M6 Lesson 8: Probability Simulations</p> <p>7–8 M6 Lesson 9: Simulations with Random Number Tables</p>

**Measurement, Data, and Probability**

**CC.2.4.8.B Statistics and Probability**

<b>Pennsylvania Core Standards Mathematics</b>	<b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b>
<p><b>CC.2.4.8.B.1</b></p> <p>Analyze and/or interpret bivariate data displayed in multiple representations.</p>	<p>7–8 M6 Lesson 18: Scatter Plots</p> <p>7–8 M6 Lesson 19: Patterns in Scatter Plots</p> <p>7–8 M6 Lesson 20: Informally Fitting a Line to Data</p> <p>7–8 M6 Lesson 21: Linear Models</p> <p>7–8 M6 Lesson 22: Bivariate Categorical Data</p> <p>7–8 M6 Lesson 23: Association in Bivariate Categorical Data</p> <p>7–8 M6 Lesson 24: Analyzing Bivariate Categorical Data</p>

**Pennsylvania Core Standards  
Mathematics**

**Aligned Components of *Eureka Math*<sup>2</sup>**

<p><b>CC.2.4.8.B.2</b></p> <p>Understand that patterns of association can be seen in bivariate data utilizing frequencies.</p>	<p>7–8 M6 Lesson 22: Bivariate Categorical Data</p> <p>7–8 M6 Lesson 23: Association in Bivariate Categorical Data</p> <p>7–8 M6 Lesson 24: Analyzing Bivariate Categorical Data</p>
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