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## Grade 8 | Missouri Mathematics Learning Standards (2016) 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>

**Number Sense and Operations****8.NS.A Know that there are numbers that are not rational, and approximate them by rational numbers.**

<b>Missouri Mathematics Learning Standards</b>	<b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b>
<b>8.NS.A.1</b> Explore the real number system.	<i>This standard is fully addressed by the lessons aligned to its subsections.</i>
<b>8.NS.A.1.a</b> Know the differences between rational and irrational numbers.	8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
<b>8.NS.A.1.b</b> Understand that all rational numbers have a decimal expansion that terminates or repeats.	8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
<b>8.NS.A.1.c</b> Convert decimals which repeat into fractions and fractions into repeating decimals.	8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
<b>8.NS.A.1.d</b> Generate equivalent representations of rational numbers.	8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
<b>8.NS.A.2</b> Estimate the value and compare the size of irrational numbers and approximate their locations on a number line.	8 M1 Lesson 21: Approximating Values of Roots and $\pi^2$ 8 M1 Lesson 23: Ordering Irrational Numbers

## Expressions, Equations and Inequalities

### 8.EE1.A Work with radicals and integer exponents.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.EE1.A.1</b></p> <p>Know and apply the properties of integer exponents to generate equivalent expressions.</p>	<p>8 M1 Lesson 5: Products of Exponential Expressions with Whole Number Exponents</p> <p>8 M1 Lesson 6: More Properties of Exponents</p> <p>8 M1 Lesson 7: Making Sense of the Exponent of 0</p> <p>8 M1 Lesson 8: Making Sense of Integer Exponents</p> <p>8 M1 Lesson 9: Writing Equivalent Expressions</p> <p>8 M1 Lesson 10: Evaluating Numerical Expressions by Using Properties of Exponents</p>
<p><b>8.EE1.A.2</b></p> <p>Investigate concepts of square and cube roots.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.EE1.A.2.a</b></p> <p>Solve equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, where <math>p</math> is a positive rational number.</p>	<p>8 M1 Lesson 16: Perfect Squares and Perfect Cubes</p> <p>8 M1 Lesson 17: Solving Equations with Squares and Cubes</p> <p>8 M1 Lesson 20: Square Roots</p> <p>8 M1 Lesson 22: Familiar and Not So Familiar Numbers</p> <p>8 M1 Lesson 24: Revisiting Equations with Squares and Cubes</p>
<p><b>8.EE1.A.2.b</b></p> <p>Evaluate square roots of perfect squares less than or equal to 625 and cube roots of perfect cubes less than or equal to 1,000.</p>	<p>8 M1 Lesson 16: Perfect Squares and Perfect Cubes</p> <p>8 M1 Lesson 17: Solving Equations with Squares and Cubes</p> <p>8 M1 Lesson 20: Square Roots</p> <p>8 M1 Lesson 22: Familiar and Not So Familiar Numbers</p> <p>8 M1 Lesson 24: Revisiting Equations with Squares and Cubes</p>

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<p><b>8.EE1.A.2.c</b></p> <p>Recognize that square roots of non-perfect squares are irrational.</p>	<p>8 M1 Lesson 16: Perfect Squares and Perfect Cubes</p> <p>8 M1 Lesson 17: Solving Equations with Squares and Cubes</p> <p>8 M1 Lesson 20: Square Roots</p> <p>8 M1 Lesson 22: Familiar and Not So Familiar Numbers</p> <p>8 M1 Lesson 24: Revisiting Equations with Squares and Cubes</p>
<p><b>8.EE1.A.3</b></p> <p>Express very large and very small quantities in scientific notation and approximate how many times larger one is than the other.</p>	<p>8 M1 Lesson 1: Large and Small Positive Numbers</p> <p>8 M1 Lesson 2: Comparing Large Numbers</p> <p>8 M1 Lesson 3: Time to Be More Precise—Scientific Notation</p> <p>8 M1 Lesson 7: Making Sense of the Exponent of 0</p> <p>8 M1 Lesson 11: Small Positive Numbers in Scientific Notation</p>
<p><b>8.EE1.A.4</b></p> <p>Use scientific notation to solve problems.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.EE1.A.4.a</b></p> <p>Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.</p>	<p>8 M1 Lesson 2: Comparing Large Numbers</p> <p>8 M1 Lesson 4: Adding and Subtracting Numbers Written in Scientific Notation</p> <p>8 M1 Lesson 12: Operations with Numbers in Scientific Notation</p> <p>8 M1 Lesson 13: Applications with Numbers in Scientific Notation</p> <p>8 M1 Lesson 14: Choosing Units of Measurement</p> <p>8 M1 Lesson 15: Get to the Point</p>

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<p><b>8.EE1.A.4.b</b></p> <p>Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.</p>	<p>8 M1 Lesson 2: Comparing Large Numbers</p> <p>8 M1 Lesson 4: Adding and Subtracting Numbers Written in Scientific Notation</p> <p>8 M1 Lesson 12: Operations with Numbers in Scientific Notation</p> <p>8 M1 Lesson 13: Applications with Numbers in Scientific Notation</p> <p>8 M1 Lesson 14: Choosing Units of Measurement</p> <p>8 M1 Lesson 15: Get to the Point</p>
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**Expressions, Equations and Inequalities**

**8.EE1.B Understand the connections between proportional relationships, lines and linear equations.**

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<p><b>8.EE1.B.5</b></p> <p>Graph proportional relationships.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.EE1.B.5.a</b></p> <p>Interpret the unit rate as the slope of the graph.</p>	<p>8 M4 Lesson 15: Comparing Proportional Relationships</p> <p>8 M4 Lesson 16: Proportional Relationships and Slope</p>
<p><b>8.EE1.B.5.b</b></p> <p>Compare two different proportional relationships.</p>	<p>8 M4 Lesson 15: Comparing Proportional Relationships</p> <p>8 M4 Lesson 16: Proportional Relationships and Slope</p>
<p><b>8.EE1.B.6</b></p> <p>Apply concepts of slope and y-intercept to graphs, equations and proportional relationships.</p>	<p>8 M3 Lesson 17: Similar Triangles on a Line</p> <p>8 M4 Lesson 12: Solutions to Linear Equations in Two Variables</p> <p>8 M4 Lesson 13: The Graph of a Linear Equation in Two Variables</p>

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<p><b>8.EE1.B.6 <i>continued</i></b></p>	<p>8 M4 Lesson 14: Lines with Special Characteristics</p> <p>8 M4 Lesson 16: Proportional Relationships and Slope</p> <p>8 M4 Lesson 17: Slopes of Rising Lines</p> <p>8 M4 Lesson 18: Slopes of Falling Lines</p> <p>8 M4 Lesson 19: Using Coordinates to Find Slope</p> <p>8 M4 Lesson 20: Slope-Intercept Form of the Equation of a Line</p> <p>8 M4 Lesson 21: Slope and Parallel Lines</p> <p>8 M4 Lesson 22: Point-Slope Form of the Equation of a Line</p> <p>8 M4 Lesson 23: Comparing Equations in Different Forms</p> <p>8 M4 Lesson 24: The Patterns, the Pops, and the Pastries</p> <p>8 M4 Lesson 25: Lines, Lines, and More Lines</p> <p>8 M4 Lesson 26: Linear Equations from Word Problems</p> <p>8 M4 Lesson 27: Get to Work</p>
<p><b>8.EE1.B.6.a</b></p> <p>Explain why the slope (<math>m</math>) is the same between any two distinct points on a non-vertical line in the Cartesian coordinate plane.</p>	<p>8 M3 Lesson 17: Similar Triangles on a Line</p> <p>8 M4 Lesson 16: Proportional Relationships and Slope</p> <p>8 M4 Lesson 17: Slopes of Rising Lines</p> <p>8 M4 Lesson 18: Slopes of Falling Lines</p> <p>8 M4 Lesson 19: Using Coordinates to Find Slope</p> <p>8 M4 Lesson 20: Slope-Intercept Form of the Equation of a Line</p>

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<p><b>8.EE1.B.6.b</b></p> <p>Derive the equation <math>y = mx</math> for a line through the origin and the equation <math>y = mx + b</math> for a line intercepting the vertical axis at <math>b</math>.</p>	<p>8 M3 Lesson 17: Similar Triangles on a Line</p> <p>8 M4 Lesson 16: Proportional Relationships and Slope</p> <p>8 M4 Lesson 17: Slopes of Rising Lines</p> <p>8 M4 Lesson 18: Slopes of Falling Lines</p> <p>8 M4 Lesson 19: Using Coordinates to Find Slope</p> <p>8 M4 Lesson 20: Slope-Intercept Form of the Equation of a Line</p>

### Expressions, Equations and Inequalities

**8.EE1.C Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.**

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<p><b>8.EE1.C.7</b></p> <p>Solve linear equations and inequalities in one variable.</p>	<p>8 M4 Lesson 2: Solving Linear Equations</p> <p>8 M4 Lesson 3: Solving Linear Equations with Rational Coefficients</p> <p>8 M4 Lesson 4: Using Linear Equations to Solve Problems</p> <p>8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems</p> <p>8 M4 Lesson 11: Planning a Trip</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p>
<p><b>8.EE1.C.7.a</b></p> <p>Create and identify linear equations with one solution, infinitely many solutions or no solutions.</p>	<p>8 M4 Lesson 7: Linear Equations with More than One Solution</p> <p>8 M4 Lesson 8: Another Possible Number of Solutions</p> <p>8 M4 Lesson 9: Writing Linear Equations</p> <p>8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems</p>

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<p><b>8.EE1.C.7.b</b></p> <p>Solve linear equations and inequalities with rational number coefficients, including equations and inequalities whose solutions require expanding expressions using the distributive property and combining like terms.</p>	<p>8 M4 Lesson 1: Equations</p> <p>8 M4 Lesson 2: Solving Linear Equations</p> <p>8 M4 Lesson 3: Solving Linear Equations with Rational Coefficients</p> <p>8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1</p> <p>8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2</p> <p>8 M4 Lesson 7: Linear Equations with More than One Solution</p> <p>8 M4 Lesson 8: Another Possible Number of Solutions</p> <p>8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems</p> <p>8 M4 Lesson 11: Planning a Trip</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p>
<p><b>8.EE1.C.8</b></p> <p>Analyze and solve systems of linear equations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.EE1.C.8.a</b></p> <p>Graph systems of linear equations and recognize the intersection as the solution to the system.</p>	<p>8 M5 Lesson 1: Solving Problems with Equations and Their Graphs</p> <p>8 M5 Lesson 2: Introduction to Systems of Linear Equations</p> <p>8 M5 Lesson 3: Identifying Solutions</p> <p>8 M5 Lesson 4: More Than One Solution</p> <p>8 M5 Lesson 5: Estimating Solutions</p> <p>8 M5 Lesson 7: The Substitution Method</p> <p>8 M5 Lesson 10: Choosing a Solution Method</p> <p>8 M5 Lesson 14: Back to the Coordinate Plane</p>

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<p><b>8.EE1.C.8.b</b></p> <p>Explain why solution(s) to a system of two linear equations in two variables correspond to point(s) of intersection of the graphs.</p>	<p>8 M5 Lesson 1: Solving Problems with Equations and Their Graphs</p> <p>8 M5 Lesson 2: Introduction to Systems of Linear Equations</p> <p>8 M5 Lesson 3: Identifying Solutions</p> <p>8 M5 Lesson 4: More Than One Solution</p> <p>8 M5 Lesson 5: Estimating Solutions</p> <p>8 M5 Lesson 7: The Substitution Method</p> <p>8 M5 Lesson 10: Choosing a Solution Method</p> <p>8 M5 Lesson 14: Back to the Coordinate Plane</p>
<p><b>8.EE1.C.8.c</b></p> <p>Explain why systems of linear equations can have one solution, no solution or infinitely many solutions.</p>	<p>8 M5 Lesson 1: Solving Problems with Equations and Their Graphs</p> <p>8 M5 Lesson 11: Writing and Solving Systems of Equations for Mathematical Problems</p> <p>8 M5 Lesson 12: Solving Historical Problems with Systems of Equations</p> <p>8 M5 Lesson 13: Writing and Solving Systems of Equations for Real-World Problems</p> <p>8 M5 Lesson 14: Back to the Coordinate Plane</p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.EE1.C.8.d</b> Solve systems of two linear equations.</p>	<p>8 M5 Lesson 1: Solving Problems with Equations and Their Graphs</p> <p>8 M5 Lesson 3: Identifying Solutions</p> <p>8 M5 Lesson 4: More Than One Solution</p> <p>8 M5 Lesson 5: Estimating Solutions</p> <p>8 M5 Lesson 6: Solving Systems of Linear Equations without Graphing</p> <p>8 M5 Lesson 7: The Substitution Method</p> <p>8 M5 Lesson 8: Using Tape Diagrams to Solve Systems of Equations</p> <p>8 M5 Lesson 9: Rewriting Equations to Solve a System of Equations</p> <p>8 M5 Lesson 10: Choosing a Solution Method</p> <p>8 M5 Lesson 11: Writing and Solving Systems of Equations for Mathematical Problems</p> <p>8 M5 Lesson 12: Solving Historical Problems with Systems of Equations</p> <p>8 M5 Lesson 13: Writing and Solving Systems of Equations for Real-World Problems</p> <p>8 M5 Lesson 14: Back to the Coordinate Plane</p> <p>A1 M2 Lesson 9: A New Way to Solve Systems</p> <p>A1 M2 Lesson 10: The Elimination Method</p>

**Geometry and Measurement**

**8.GM.A Understand congruence and similarity using physical models, transparencies or geometry software.**

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.GM.A.1</b> Verify experimentally the congruence properties of rigid transformations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.GM.A.1.a</b></p> <p>Verify that angle measure, betweenness, collinearity and distance are preserved under rigid transformations.</p>	<p>8 M2 Lesson 1: Motions of the Plane</p> <p>8 M2 Lesson 2: Translations</p> <p>8 M2 Lesson 3: Reflections</p> <p>8 M2 Lesson 5: Rotations</p> <p>8 M2 Lesson 7: Working Backward</p> <p>8 M2 Lesson 8: Sequencing the Rigid Motions</p>
<p><b>8.GM.A.1.b</b></p> <p>Investigate if orientation is preserved under rigid transformations.</p>	<p>8 M2 Lesson 5: Rotations</p>
<p><b>8.GM.A.2</b></p> <p>Understand that two-dimensional figures are congruent if a series of rigid transformations can be performed to map the pre-image to the image.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsection.</i></p>
<p><b>8.GM.A.2.a</b></p> <p>Describe a possible sequence of rigid transformations between two congruent figures.</p>	<p>8 M2 Lesson 7: Working Backward</p> <p>8 M2 Lesson 8: Sequencing the Rigid Motions</p> <p>8 M2 Lesson 9: Ordering Sequences of Rigid Motions</p> <p>8 M2 Lesson 10: Congruent Figures</p> <p>8 M2 Lesson 11: Showing Figures Are Congruent</p> <p>8 M2 Lesson 12: Lines Cut by a Transversal</p>

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<p><b>8.GM.A.3</b></p> <p>Describe the effect of dilations, translations, rotations and reflections on two-dimensional figures using coordinates.</p>	<p>8 M2 Lesson 4: Translations and Reflections on the Coordinate Plane</p> <p>8 M2 Lesson 6: Rotations on the Coordinate Plane</p> <p>8 M2 Lesson 9: Ordering Sequences of Rigid Motions</p> <p>8 M3 Lesson 1: Exploring Dilations</p> <p>8 M3 Lesson 2: Enlargements</p> <p>8 M3 Lesson 3: Reductions and More Enlargements</p> <p>8 M3 Lesson 4: Using Lined Paper to Explore Dilations</p> <p>8 M3 Lesson 5: Figures and Dilations</p> <p>8 M3 Lesson 6: The Shadowy Hand</p> <p>8 M3 Lesson 7: Dilations on a Grid</p> <p>8 M3 Lesson 8: Dilations on the Coordinate Plane</p> <p>8 M3 Lesson 9: Describing Dilations</p> <p>8 M3 Lesson 10: Sequencing Transformations</p> <p>8 M3 Lesson 16: Similar Right Triangles</p>
<p><b>8.GM.A.4</b></p> <p>Understand that two-dimensional figures are similar if a series of transformations (rotations, reflections, translations and dilations) can be performed to map the pre-image to the image.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsection.</i></p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.GM.A.4.a</b></p> <p>Describe a possible sequence of transformations between two similar figures.</p>	<p>8 M3 Lesson 11: Similar Figures</p> <p>8 M3 Lesson 12: Exploring Angles in Similar Triangles</p> <p>8 M3 Lesson 13: Similar Triangles</p> <p>8 M3 Lesson 17: Similar Triangles on a Line</p>
<p><b>8.GM.A.5</b></p> <p>Explore angle relationships and establish informal arguments.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.GM.A.5.a</b></p> <p>Derive the sum of the interior angles of a triangle.</p>	<p>8 M2 Lesson 12: Lines Cut by a Transversal</p> <p>8 M2 Lesson 13: Angle Sum of a Triangle</p> <p>8 M2 Lesson 14: Showing Lines Are Parallel</p> <p>8 M2 Lesson 15: Exterior Angles of Triangles</p> <p>8 M2 Lesson 16: Find Unknown Angle Measures</p> <p>8 M3 Lesson 12: Exploring Angles in Similar Triangles</p> <p>8 M3 Lesson 13: Similar Triangles</p> <p>8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths</p> <p>8 M3 Lesson 15: Applications of Similar Figures</p> <p>8 M3 Lesson 16: Similar Right Triangles</p>

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<p><b>8.GM.A.5.b</b> Explore the relationship between the interior and exterior angles of a triangle.</p>	<p>8 M2 Lesson 12: Lines Cut by a Transversal 8 M2 Lesson 13: Angle Sum of a Triangle 8 M2 Lesson 14: Showing Lines Are Parallel 8 M2 Lesson 15: Exterior Angles of Triangles 8 M2 Lesson 16: Find Unknown Angle Measures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 13: Similar Triangles 8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths 8 M3 Lesson 15: Applications of Similar Figures 8 M3 Lesson 16: Similar Right Triangles</p>
<p><b>8.GM.A.5.c</b> Construct and explore the angles created when parallel lines are cut by a transversal.</p>	<p>8 M2 Lesson 12: Lines Cut by a Transversal 8 M2 Lesson 13: Angle Sum of a Triangle 8 M2 Lesson 14: Showing Lines Are Parallel 8 M2 Lesson 15: Exterior Angles of Triangles 8 M2 Lesson 16: Find Unknown Angle Measures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 13: Similar Triangles 8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths 8 M3 Lesson 15: Applications of Similar Figures 8 M3 Lesson 16: Similar Right Triangles</p>

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<p><b>8.GM.A.5.d</b></p> <p>Use the properties of similar figures to solve problems.</p>	<p>8 M3 Lesson 11: Similar Figures</p> <p>8 M3 Lesson 12: Exploring Angles in Similar Triangles</p> <p>8 M3 Lesson 13: Similar Triangles</p> <p>8 M3 Lesson 17: Similar Triangles on a Line</p>
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**Geometry and Measurement**

**8.GM.B Understand and apply the Pythagorean Theorem.**

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<p><b>8.GM.B.6</b></p> <p>Use models to demonstrate a proof of the Pythagorean Theorem and its converse.</p>	<p>8 M2 Lesson 17: Proving the Pythagorean Theorem</p> <p>8 M2 Lesson 18: Proving the Converse of the Pythagorean Theorem</p> <p>8 M2 Lesson 19: Using the Pythagorean Theorem and Its Converse</p>
<p><b>8.GM.B.7</b></p> <p>Use the Pythagorean Theorem to determine unknown side lengths in right triangles in problems in two- and three-dimensional contexts.</p>	<p>8 M1 Lesson 18: The Pythagorean Theorem</p> <p>8 M1 Lesson 19: Using the Pythagorean Theorem</p> <p>8 M1 Lesson 20: Square Roots</p> <p>8 M2 Lesson 19: Using the Pythagorean Theorem and Its Converse</p> <p>8 M2 Lesson 21: Applying the Pythagorean Theorem</p> <p>8 M2 Lesson 22: On the Right Path</p> <p>8 M3 Lesson 16: Similar Right Triangles</p>
<p><b>8.GM.B.8</b></p> <p>Use the Pythagorean Theorem to find the distance between points in a Cartesian coordinate system.</p>	<p>8 M2 Lesson 20: Distance in the Coordinate Plane</p> <p>8 M2 Lesson 22: On the Right Path</p>

## Geometry and Measurement

### 8.GM.C Solve problems involving volume of cones, pyramids and spheres.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.GM.C.9</b></p> <p>Solve problems involving surface area and volume.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.GM.C.9.a</b></p> <p>Understand the concept of surface area and find surface area of pyramids.</p>	<p>7 M4 Lesson 20: Surface Area of Right Pyramids</p>
<p><b>8.GM.C.9.b</b></p> <p>Understand the concept of volume and find the volume of pyramids, cones and spheres.</p>	<p>8 M6 Lesson 21: Volumes of Prisms and Pyramids</p> <p>8 M6 Lesson 22: Volume of Cylinders</p> <p>8 M6 Lesson 23: Volume of Cones</p> <p>8 M6 Lesson 24: Volume of Spheres</p> <p>8 M6 Lesson 25: Applications of Volume</p>

## Data Analysis, Statistics and Probability

### 8.DSP.A Investigate patterns of association in bivariate data.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.DSP.A.1</b></p> <p>Construct and interpret scatter plots of bivariate measurement data to investigate patterns of association between two quantities.</p>	<p>8 M6 Lesson 11: Scatter Plots</p> <p>8 M6 Lesson 12: Patterns in Scatter Plots</p>

<p><b>Missouri Mathematics Learning Standards</b></p>	<p><b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b></p>
<p><b>8.DSP.A.2</b></p> <p>Generate and use a trend line for bivariate data, and informally assess the fit of the line.</p>	<p>8 M6 Lesson 13: Informally Fitting a Line to Data</p> <p>8 M6 Lesson 15: Linear Models</p> <p>8 M6 Lesson 16: Using the Investigative Process</p> <p>8 M6 Lesson 17: Analyzing the Model</p>
<p><b>8.DSP.A.3</b></p> <p>Interpret the parameters of a linear model of bivariate measurement data to solve problems.</p>	<p>8 M6 Lesson 6: Linear Functions and Rate of Change</p> <p>8 M6 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>8 M6 Lesson 14: Determining an Equation of a Line Fit to Data</p> <p>8 M6 Lesson 15: Linear Models</p> <p>8 M6 Lesson 16: Using the Investigative Process</p> <p>8 M6 Lesson 17: Analyzing the Model</p>
<p><b>8.DSP.A.4</b></p> <p>Understand the patterns of association in bivariate categorical data displayed in a two-way table.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.DSP.A.4.a</b></p> <p>Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects.</p>	<p>8 M6 Lesson 18: Bivariate Categorical Data</p> <p>8 M6 Lesson 19: Association in Bivariate Categorical Data</p> <p>8 M6 Lesson 20: Analyzing Bivariate Categorical Data</p>
<p><b>8.DSP.A.4.b</b></p> <p>Use relative frequencies calculated for rows or columns to describe possible association between the two variables.</p>	<p>8 M6 Lesson 18: Bivariate Categorical Data</p> <p>8 M6 Lesson 19: Association in Bivariate Categorical Data</p> <p>8 M6 Lesson 20: Analyzing Bivariate Categorical Data</p>

## Functions

### 8.F.A Define, evaluate and compare functions.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.F.A.1</b> Explore the concept of functions. (The use of function notation is not required.)</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.F.A.1.a</b> Understand that a function assigns to each input exactly one output.</p>	<p>8 M6 Lesson 1: Motion and Speed 8 M6 Lesson 2: Definition of a Function 8 M6 Lesson 4: More Examples of Functions 8 M6 Lesson 5: Graphs of Functions and Equations</p>
<p><b>8.F.A.1.b</b> Determine if a relation is a function.</p>	<p>8 M6 Lesson 1: Motion and Speed 8 M6 Lesson 2: Definition of a Function 8 M6 Lesson 4: More Examples of Functions 8 M6 Lesson 5: Graphs of Functions and Equations</p>
<p><b>8.F.A.1.c</b> Graph a function.</p>	<p>8 M6 Lesson 1: Motion and Speed 8 M6 Lesson 2: Definition of a Function 8 M6 Lesson 4: More Examples of Functions 8 M6 Lesson 5: Graphs of Functions and Equations</p>
<p><b>8.F.A.2</b> Compare characteristics of two functions each represented in a different way.</p>	<p>8 M6 Lesson 7: Interpreting Rate of Change and Initial Value 8 M6 Lesson 8: Comparing Functions</p>

<b>Missouri Mathematics Learning Standards</b>	<b>Aligned Components of Eureka Math<sup>2</sup></b>
<p><b>8.F.A.3</b> Investigate the differences between linear and nonlinear functions.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>8.F.A.3.a</b> Interpret the equation <math>y = mx + b</math> as defining a linear function, whose parameters are the slope (<math>m</math>) and the <math>y</math>-intercept (<math>b</math>).</p>	<p>8 M6 Lesson 3: Linear Functions and Proportionality 8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 10: Graphs of Nonlinear Functions</p>
<p><b>8.F.A.3.b</b> Recognize that the graph of a linear function has a constant rate of change.</p>	<p>8 M6 Lesson 3: Linear Functions and Proportionality 8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 10: Graphs of Nonlinear Functions</p>
<p><b>8.F.A.3.c</b> Give examples of nonlinear functions.</p>	<p>8 M6 Lesson 3: Linear Functions and Proportionality 8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 10: Graphs of Nonlinear Functions</p>

## Functions

### 8.F.B Use functions to model relationships between quantities.

<b>Missouri Mathematics Learning Standards</b>	<b>Aligned Components of Eureka Math<sup>2</sup></b>
<p><b>8.F.B.4</b> Use functions to model linear relationships between quantities.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>8.F.B.4.a</b></p> <p>Explain the parameters of a linear function based on the context of a problem.</p>	<p>8 M6 Lesson 6: Linear Functions and Rate of Change</p> <p>8 M6 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>8 M6 Lesson 25: Applications of Volume</p>
<p><b>8.F.B.4.b</b></p> <p>Determine the parameters of a linear function.</p>	<p>8 M6 Lesson 6: Linear Functions and Rate of Change</p> <p>8 M6 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>8 M6 Lesson 25: Applications of Volume</p>
<p><b>8.F.B.4.c</b></p> <p>Determine the <math>x</math>-intercept of a linear function.</p>	<p>8 M6 Lesson 6: Linear Functions and Rate of Change</p> <p>8 M6 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>8 M6 Lesson 25: Applications of Volume</p>
<p><b>8.F.B.5</b></p> <p>Describe the functional relationship between two quantities from a graph or a verbal description.</p>	<p>8 M6 Lesson 9: Increasing and Decreasing Functions</p> <p>8 M6 Lesson 10: Graphs of Nonlinear Functions</p>