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## Algebra 1 | Minnesota K–12 Academic Standards in Mathematics (2026) 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><br/>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><br/>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><br/>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><br/>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><br/>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><br/>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><br/>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><br/>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> |

## Data and Probability

**Data Sciences: Identify, formulate and investigate statistical questions by collecting data, considering cultural perspectives, analyzing and interpreting data and communicating the results.**

### Minnesota K–12 Academic Standards in Mathematics

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

| Minnesota K–12 Academic Standards in Mathematics   | Aligned Components of <i>Eureka Math</i> <sup>2</sup>   |
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| <b>9.1.1.1</b><br>Formulate statistical investigative questions and pose hypotheses. These include questions about variation or the differences between groups, associations between quantitative and categorical variables or pairing together multiple analyses. | A1 M2 Lesson 15: Relationships Between Quantitative Variables<br>A1 M6 Lesson 1: Analyzing Paint Splatters<br>A1 Data Talk: Organ Transplants in the US<br>A1 Data Talk: Energy in Earthquakes and Lightning<br>A1 Data Talk: The Carbon in Our Trees<br>A1 Data Talk: Change in Forest Area<br>A1 Data Talk: Growth in Renewable Energy<br>A1 Data Talk: Disappearing Sea Ice<br>A1 Data Talk: Daylight at the Extremes<br>A1 Data Talk: Life Expectancy at Birth<br>A1 Data Talk: License to Drive<br>A1 Data Talk: Venomous Snake Bites<br>A1 Data Talk: Time to Vote<br>A1 Data Talk: Disaster Relief<br>A1 Data Talk: US House Tenure<br>A1 Data Talk: Hot and Cold Park Days<br>A1 Data Investigation: Driving Dangers<br>A1 Data Investigation: Carbon in Trees<br>A1 Data Investigation: Organ Donation |

**Minnesota K–12 Academic Standards in Mathematics**

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

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| <p><b>9.1.1.5</b></p> <p>Analyze and explain when arguments based on data confuse correlation and causation.</p>  | <p>A1 M2 Lesson 20: Interpreting Correlation</p> <p>A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>   |
| <p><b>9.1.1.6</b></p> <p>Compute using technology or estimate the correlation coefficient of a linear model. Interpret the linear model in the context of the data.</p> | <p>A1 M2 Lesson 20: Interpreting Correlation</p> <p>A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>   |
| <p><b>9.1.1.9</b></p> <p>Use statistics appropriate to the shape of the data distribution to compare the center and spread of two or more data sets.</p>                | <p>A1 M1 Lesson 19: Distributions and Their Shapes</p> <p>A1 M1 Lesson 20: Describing the Center of a Distribution</p> <p>A1 M1 Lesson 21: Using Center to Compare Data Distributions</p> <p>A1 M1 Lesson 22: Describing Variability in a Univariate Distribution with Standard Deviation</p> <p>A1 M1 Lesson 23: Estimating Variability in Data Distributions</p> <p>A1 M1 Lesson 24: Comparing Distributions of Univariate Data</p>  |
| <p><b>9.1.1.10</b></p> <p>Create and analyze data displays, including scatter plots, histograms and boxplots using technology.</p>                                      | <p>A1 M1 Lesson 19: Distributions and Their Shapes</p> <p>A1 M1 Lesson 20: Describing the Center of a Distribution</p> <p>A1 M1 Lesson 22: Describing Variability in a Univariate Distribution with Standard Deviation</p> <p>A1 M1 Lesson 23: Estimating Variability in Data Distributions</p> <p>A1 M2 Lesson 15: Relationships between Quantitative Variables</p> <p>A1 M2 Lesson 16: Using Lines to Model Bivariate Quantitative Data</p> <p>A1 M2 Lesson 17: Modeling Relationships with a Line</p> <p>A1 M2 Lesson 18: Calculating and Analyzing Residuals</p> |

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| <p><b>9.1.1.10 <i>continued</i></b></p>   | <p>A1 M2 Lesson 19: Analyzing Residuals<br/>                     A1 M2 Lesson 20: Interpreting Correlation<br/>                     A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data<br/>                     A1 M6 Lesson 1: Analyzing Paint Splatters<br/>                     A1 Data Investigation: Carbon in Trees</p> <p><i>Supplemental material is necessary to address creating histograms and boxplots using technology.</i></p>  |
| <p><b>9.1.1.11</b></p> <p>Identify, create and compare statistical models with linear and exponential functions, including linear regression. Assess the reasonableness of model fit using residuals and correlation coefficients.</p>  | <p>A1 M5 Lesson 22: A Closer Look at Populations<br/>                     A1 M5 Lesson 24: Modeling an Invasive Species Population<br/>                     A1 M6 Lesson 2: Using Residual Plots to Select Models for Data<br/>                     A1 M6 Lesson 3: Populations of US Cities</p>  |
| <p><b>9.1.1.12</b></p> <p>Examine and discuss competing explanations for data trends observed such as confounding variables. Respond to competing arguments or interpretations of the data of different community groups, paying careful attention to what conclusions the data supports.</p> | <p>8 M6 L11: Scatter Plots<br/>                     8 Data Talk: Alaskan Sled Dog Racing<br/>                     8 Data Talk: US Armed Service Members<br/>                     A1 M2 Lesson 20: Interpreting Correlation<br/>                     A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data<br/>                     A1 Data Talk: US House Tenure</p> <p><i>Supplemental material is necessary to address confounding variables and responding to competing arguments or interpretations.</i></p> |

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| <p><b>9.1.1.13</b></p> <p>Analyze and interpret data using various measures, such as difference in shapes, center and spread to draw conclusions, identify trends and describe relationships, accounting for possible effects of extreme data points (outliers).</p> | <p>A1 M1 Lesson 19: Distributions and Their Shapes</p> <p>A1 M1 Lesson 20: Describing the Center of a Distribution</p> <p>A1 M1 Lesson 21: Using Center to Compare Data Distributions</p> <p>A1 M1 Lesson 22: Describing Variability in a Univariate Distribution with Standard Deviation</p> <p>A1 M1 Lesson 23: Estimating Variability in Data Distributions</p> <p>A1 M1 Lesson 24: Comparing Distributions of Univariate Data</p> |
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**Spatial Reasoning**

**Measurement: Investigate measurement using a variety of tools, units, systems, processes and techniques in various cultures. Explain and reason with attributes, estimations and formulas to communicate measurement(s) and relationships effectively. Justify decisions and consider the reasonableness of the measurement.**

**Minnesota K–12 Academic Standards in Mathematics**

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

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| <p><b>9.2.3.6</b></p> <p>Use units of measure and dimensional analysis to solve multi-step situations. Interpret units consistently in formulas. Interpret the scale and the origin in graphs and data displays.</p> | <p>A1 M4 Lesson 25: Maximizing Area</p> <p>A1 M6 Lesson 5: Solar System Models</p> <p>A1 M6 Lesson 6: Designing A Fundraiser</p> |
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## Patterns and Relationships

**Number Relationships: Describe, Interpret and use quantities, relationships between quantities, representations of quantities, and number systems. Describe operations and the relationship between operations. Use strategies and procedures accurately, efficiently and flexibly. Assess the reasonableness of the results.**

### Minnesota K–12 Academic Standards in Mathematics

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

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| <p><b>9.3.5.1</b></p> <p>Add, subtract, multiply and divide numbers in scientific notation.</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 4: Adding and Subtracting Numbers Written in Scientific Notation</p> <p>8 M1 Lesson 11: Small Positive Numbers 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> |
| <p><b>9.3.5.2</b></p> <p>Compare the definition of rational exponents and properties of radicals. Explain how the definition of rational exponents follows from extending the properties of integer exponents, allowing for a notation for radicals in terms of rational exponents.</p> | <p>A1 M5 Lesson 9: Unit Fraction Exponents</p> <p>A1 M5 Lesson 10: Rational Exponents</p>  |
| <p><b>9.3.5.5</b></p> <p>Estimate and verify the cost of an item, including multiple discounts and taxes. Show an understanding of the order of operations.</p>   | <p>G7 M5 Lesson 12: More Discounts</p> <p>G7 M5 Lesson 13: What Is the Best Deal?</p> <p>G7 M5 Lesson 15: Tips and Taxes</p> <p>G7 M5 Lesson 16: Markups and Discounts</p> <p><i>Supplemental material is necessary to address estimating the cost.</i></p>  |

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| <p><b>9.3.5.6</b></p> <p>Assess the reasonableness of a solution in its given context, including financial literacy applications. Compare the solution to appropriate graphical or numerical estimates. Interpret a solution in the original context.</p> | <p>A1 M2 Lesson 7: Low-Flow Showerhead</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p> <p>A1 M4 Lesson 24: Another Look at Systems of Equations</p> <p>A1 M4 Lesson 25: Maximizing Area</p> <p>A1 M4 Lesson 27: Search and Rescue Helicopter</p> <p>A1 M5 Lesson 8: Exponential Functions</p> <p>A1 M5 Lesson 15: Calculating Interest</p> <p>A1 M5 Lesson 16: Exponential Growth</p> <p>A1 M5 Lesson 17: Exponential Decay</p> <p>A1 M5 Lesson 18: Modeling Populations</p> <p>A1 M5 Lesson 21: World Population Prediction</p> <p>A1 M5 Lesson 22: A Closer Look at Populations</p> <p>A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time</p> <p>A1 M5 Lesson 24: Modeling an Invasive Species Population</p> <p>A1 M6 Lesson 4: The Deal</p> <p>A1 M6 Lesson 5: Solar System Models</p> <p>A1 M6 Lesson 6: Designing a Fundraiser</p> <p>A1 M6 Lesson 7: World Record Doughnut</p> <p><i>Supplemental material is necessary to address financial literacy contexts.</i></p> |
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**Minnesota K–12 Academic Standards in Mathematics**

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

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| <p><b>9.3.5.7</b></p> <p>Use the structure of an expression, equation and/or formula to create an equivalent form that is more helpful given the situation. Rearrange formulas to highlight a quantity of interest, using the same reasoning in solving equations.</p> | <p>A1 M1 Lesson 12: Rearranging Formulas</p> <p>A1 M4 Lesson 5: Solving Equations That Contain Factored Expressions</p> <p>A1 M4 Lesson 6: Solving Quadratic Equations by Factoring: Identities and Guess and Check</p> <p>A1 M4 Lesson 7: Solving Quadratic Equations by Factoring: Splitting the Linear Term</p> <p>A1 M4 Lesson 8: A Summary of Solving Quadratic Equations by Factoring</p> <p>A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable</p> <p>A1 M4 Lesson 10: Zeros of Functions</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations</p> <p>A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square</p> <p>A1 M4 Lesson 16: Solving Quadratic Equations</p> <p>A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> |
| <p><b>9.3.5.8</b></p> <p>Use the structure of an expression to write it in multiple ways.</p>  | <p>A1 M2 Lesson 2: Graphing Linear Equations in Two Variables</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> <p>A1 M5 Lesson 11: Graphing Exponential Functions</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p> <p>A1 M5 Lesson 18: Modeling Populations</p>  |

## Patterns and Relationships

**Equivalence and Relational Thinking: Use concepts and properties of equivalence and relational thinking to represent and compare numerical expressions, proportional relationships, algebraic expressions and equations.**

### Minnesota K–12 Academic Standards in Mathematics

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

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| <p><b>9.3.6.1</b><br/>Add, subtract and multiply polynomials.</p>   | <p>A1 M1 Lesson 4: Adding and Subtracting Polynomial Expressions<br/>A1 M1 Lesson 5: Multiplying Polynomial Expressions<br/>A1 M1 Lesson 6: Polynomial Identities</p>  |
| <p><b>9.3.6.2</b><br/>Reason abstractly to compare general forms of quadratics, including vertex form, general form, factored form and the graph. Develop procedures to convert from one form to another.</p> | <p>A1 M4 Lesson 1: Falling Objects<br/>A1 M4 Lesson 2: Projectile Motion<br/>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion<br/>A1 M4 Lesson 10: Zeros of Functions<br/>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form<br/>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form<br/>A1 M4 Lesson 18: The Quadratic Formula and Zeros of a Function<br/>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> |
| <p><b>9.3.6.3</b><br/>Choose and produce an equivalent form of a quadratic function, using symbolic and graphical methods, to identify the vertex, line of symmetry and intercepts of the parabola.</p>       | <p>A1 M4 Lesson 1: Falling Objects<br/>A1 M4 Lesson 2: Projectile Motion<br/>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion<br/>A1 M4 Lesson 10: Zeros of Functions<br/>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form<br/>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form<br/>A1 M4 Lesson 18: The Quadratic Formula and Zeros of a Function<br/>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> |

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| <p><b>9.3.6.4</b></p> <p>Factor polynomials including common monomial factors from polynomials, quadratic polynomials and the difference of two squares.</p>  | <p>A1 M4 Lesson 6: Solving Quadratic Equations by Factoring: Identities and Guess and Check</p> <p>A1 M4 Lesson 7: Solving Quadratic Equations by Factoring: Splitting the Linear Term</p> <p>A1 M4 Lesson 8: A Summary of Solving Quadratic Equations by Factoring</p>  |
| <p><b>9.3.6.5</b></p> <p>Solve quadratic equations by appropriate methods using factoring, completing the square, graphing or the quadratic formula. Find non-real complex roots when they exist.</p> | <p>A1 M4 Lesson 1: Falling Objects</p> <p>A1 M4 Lesson 2: Projectile Motion</p> <p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M4 Lesson 8: A Summary of Solving Quadratic Equations by Factoring</p> <p>A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations</p> <p>A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square</p> <p>A1 M4 Lesson 16: Solving Quadratic Equations</p> <p>A1 M4 Lesson 25: Maximizing Area</p> |
| <p><b>9.3.6.7</b></p> <p>Solve situations involving relationships which are inversely proportional in various contexts, including rates.</p>  | <p>A1 M3 Lesson 7: Inverses of Linear Functions</p>  |

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| <p><b>9.3.6.8</b></p> <p>Apply the properties of rational exponents and radicals to generate equivalent algebraic expressions.</p> | <p>A1 M5 Lesson 9: Unit Fraction Exponents</p> <p>A1 M5 Lesson 10: Rational Exponents</p> |
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## Patterns and Relationships

**Patterns and Relationships: Represent and connect mathematical patterns and relationships using verbal descriptions, generalizations, tables and graphs. Use representations to generate questions, make predictions and solve mathematical problems.**

### Minnesota K–12 Academic Standards in Mathematics

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

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| <p><b>9.3.7.1</b></p> <p>Represent and solve situations in various contexts, including financial literacy, using systems of linear equations, systems of linear inequalities and exponential and quadratic functions.</p> | <p>A1 M2 Lesson 7: Low-Flow Showerhead</p> <p>A1 M2 Lesson 8: Systems of Linear Equations in Two Variables</p> <p>A1 M2 Lesson 9: A New Way to Solve Systems</p> <p>A1 M2 Lesson 10: The Elimination Method</p> <p>A1 M2 Lesson 11: Applications of Systems of Equations</p> <p>A1 M2 Lesson 12: Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 13: Graphing Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 14: Applications of Systems of Linear Inequalities</p> <p>A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> <p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p> <p>A1 M4 Lesson 24: Another Look at Systems of Equations</p> <p>A1 M4 Lesson 25: Maximizing Area</p> <p>A1 M4 Lesson 26: Modeling Data with Quadratic Functions</p> <p>A1 M4 Lesson 27: Search and Rescue Helicopter</p> <p>A1 M5 Lesson 15: Calculating Interest</p> <p>A1 M5 Lesson 16: Exponential Growth</p> <p>A1 M5 Lesson 17: Exponential Decay</p> <p>A1 M5 Lesson 18: Modeling Populations</p> <p>A1 M5 Lesson 19: Analyzing Exponential Growth</p> |
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**Minnesota K–12 Academic Standards in Mathematics**

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

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| <p><b>9.3.7.1 <i>continued</i></b></p>  | <p>A1 M5 Lesson 20: Comparing Growth of Functions<br/>                     A1 M5 Lesson 21: World Population Prediction<br/>                     A1 M5 Lesson 22: A Closer Look at Populations<br/>                     A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time<br/>                     A1 M5 Lesson 24: Modeling an Invasive Species Population<br/>                     A1 M6 Lesson 3: Populations of US Cities<br/>                     A1 M6 Lesson 4: The Deal<br/>                     A1 M6 Lesson 6: Designing a Fundraiser</p> <p><i>Supplemental material is necessary to address financial literacy contexts.</i></p>   |
| <p><b>9.3.7.2</b></p> <p>Translate between graphs of quadratic, exponential and other functions (including absolute value, rational and polynomial), tables and symbolic representations. Sketch graphs and use graphing technology to graph functions.</p> | <p>A1 M3 Lesson 15: Piecewise Linear Functions<br/>                     A1 M4 Lesson 4: Graphs of Quadratic Functions<br/>                     A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form<br/>                     A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form<br/>                     A1 M4 Lesson 19: Transforming the Graphs of Quadratic Functions<br/>                     A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions<br/>                     A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions<br/>                     A1 M5 Lesson 11: Graphing Exponential Functions<br/>                     A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)<br/>                     A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)<br/>                     A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs</p> <p><i>Supplemental material is necessary to address rational and polynomial functions.</i></p> |

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| <p><b>9.3.7.3</b></p> <p>Determine how vertical/horizontal reflecting, translating and scaling affect the symbolic and graphical forms of a function. Use graphing technology to examine transformations.</p> | <p>A1 M3 Lesson 19: Exploring Transformations of the Graphs of Functions</p> <p>A1 M3 Lesson 20: Building New Functions—Translations</p> <p>A1 M3 Lesson 21: Building New Functions—Reflections</p> <p>A1 M3 Lesson 22: Building New Functions—Vertical Scaling</p> <p>A1 M3 Lesson 23: Building New Functions—Horizontal Scaling</p> <p>A1 M3 Lesson 24: A Summary of Transforming the Graph of a Function</p> <p>A1 M4 Lesson 19: Transforming the Graphs of Quadratic Functions</p> <p>A1 M4 Lesson 20: Art with Transformations</p> <p><i>Supplemental material is necessary to address using graphing technology to examine transformations.</i></p> |
| <p><b>9.3.7.4</b></p> <p>Express the terms in an arithmetic or geometric sequence recursively and by giving an explicit formula.</p>  | <p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences</p>  |
| <p><b>9.3.7.5</b></p> <p>Express recursive patterns using recursive formulas. Calculate sequences defined by recursive formulas.</p>  | <p>A1 M5 Lesson 2: The Recursive Challenge</p> <p>A1 M5 Lesson 3: Recursive Formulas for Sequences</p> <p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 7: Sierpinski Triangle</p>  |

**Minnesota K–12 Academic Standards in Mathematics**

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

**9.3.7.6**

Find the domain and range of functions defined symbolically, graphically or in a context, including piecewise and step functions. Express solutions and recognize that some answers obtained may not be valid, including cases where the function inputs are discrete instead of continuous.

- A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables
- A1 M2 Lesson 4: Solution Sets of Linear Inequalities in Two Variables
- A1 M3 Lesson 2: Representing, Naming, and Evaluating Functions
- A1 M3 Lesson 3: The Graph of a Function
- A1 M3 Lesson 7: Inverses of Linear Functions
- A1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph
- A1 M3 Lesson 9: Identifying Key Features of a Function and Its Graph
- A1 M3 Lesson 12: Comparing Functions
- A1 M3 Lesson 14: Modeling Elevation as a Function of Time
- A1 M3 Lesson 15: Piecewise Linear Functions
- A1 M3 Lesson 16: The Absolute Value Function
- A1 M3 Lesson 17: Step Functions
- A1 M3 Lesson 18: Piecewise Linear Functions in Context
- A1 M4 Lesson 1: Falling Objects
- A1 M4 Lesson 2: Projectile Motion
- A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion
- A1 M4 Lesson 4: Graphs of Quadratic Functions
- A1 M4 Lesson 19: Transforming the Graphs of Quadratic Functions
- A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions
- A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions
- A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts
- A1 M4 Lesson 25: Maximizing Area
- A1 M4 Lesson 27: Search and Rescue Helicopter

**Minnesota K–12 Academic Standards in Mathematics**

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

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| <p><b>9.3.7.6 <i>continued</i></b></p>  | <p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences<br/>                     A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences<br/>                     A1 M5 Lesson 8: Exponential Functions<br/>                     A1 M5 Lesson 11: Graphing Exponential Functions<br/>                     A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)<br/>                     A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p> |
| <p><b>9.3.7.7</b></p> <p>Describe the graph of a function using key features such as intercepts, maxima/minima, intervals of increase and decrease and end behavior. Draw conclusions from graphs of functions and other relations.</p> | <p>A1 M3 Lesson 7: Inverses of Linear Functions<br/>                     A1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph<br/>                     A1 M4 Lesson 1: Falling Objects<br/>                     A1 M4 Lesson 2: Projectile Motion<br/>                     A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion<br/>                     A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p>  |
| <p><b>9.3.7.9</b></p> <p>Find the inverse of a given function and justify the results using tables, graphs or algebra.</p>  | <p>A1 M3 Lesson 7: Inverses of Linear Functions</p>   |
| <p><b>9.3.7.10</b></p> <p>Use the concept of a function as a connection between inputs and outputs to find function values and use function notation.</p>   | <p>A1 M3 Lesson 1: The Definition of a Function<br/>                     A1 M3 Lesson 2: Representing, Naming, and Evaluating Functions<br/>                     A1 M3 Lesson 3: The Graph of a Function<br/>                     A1 M3 Lesson 4: The Graph of the Equation <math>y = f(x)</math><br/>                     A1 M3 Lesson 6: Representations of Functions</p>   |