ABOUT EUREKA MATH

Created by the nonprofit Great Minds, Eureka Math® helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students’ mastery of math.

Teachers and students using Eureka Math find the trademark “Aha!” moments in Eureka Math to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses that demonstrate how each grade of Eureka Math aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

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

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the Eureka Math curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources
Indiana Academic Standards for Mathematics Correlation to *Eureka Math*®

**ALGEBRA I**

The majority of the Algebra I Indiana Academic Standards for Mathematics are fully covered by the Algebra I *Eureka Math* curriculum. The areas where the Algebra I Indiana Academic Standards for Mathematics and Algebra I *Eureka Math* do not align will require the use of *Eureka Math* content from other grade levels or courses, or supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Indiana Academic Standards for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

**INDICATORS**

- **GREEN** indicates the Indiana standard is addressed in *Eureka Math*.
- **YELLOW** indicates the Indiana standard may not be completely addressed in *Eureka Math*.
- **RED** indicates the Indiana standard is not addressed in *Eureka Math*.
- **BLUE** indicates there is a discrepancy between the grade level at which this standard is addressed in Indiana and in *Eureka Math*.
### Process Standards for Mathematics

**PS.1: Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway, rather than simply jumping into a solution attempt. They consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” and “Is my answer reasonable?” They understand the approaches of others to solving complex problems and identify correspondences between different approaches. Mathematically proficient students understand how mathematical ideas interconnect and build on one another to produce a coherent whole.

### Aligned Components of *Eureka Math*

Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules:

- **Algebra I M1:** Relationships Between Quantities and Reasoning with Equations and Their Graphs
- **Algebra I M2:** Descriptive Statistics
- **Algebra I M3:** Linear and Exponential Functions
- **Algebra I M4:** Polynomial and Quadratic Expressions, Equations, and Functions
- **Algebra I M5:** A Synthesis of Modeling with Equations and Functions
### Process Standards for Mathematics

**PS.2: Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

### Aligned Components of *Eureka Math*

Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules:

- Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs
- Algebra I M2: Descriptive Statistics
- Algebra I M3: Linear and Exponential Functions
- Algebra I M4: Polynomial and Quadratic Expressions, Equations, and Functions
- Algebra I M5: A Synthesis of Modeling with Equations and Functions
### Process Standards for Mathematics

**PS.3: Construct viable arguments and critique the reasoning of others.**

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They analyze situations by breaking them into cases and recognize and use counterexamples. They organize their mathematical thinking, justify their conclusions and communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. They justify whether a given statement is true always, sometimes, or never. Mathematically proficient students participate and collaborate in a mathematics community. They listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

### Aligned Components of *Eureka Math*

Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules:

- Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs
- Algebra I M2: Descriptive Statistics
PS.4: Model with mathematics.
Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace using a variety of appropriate strategies. They create and use a variety of representations to solve problems and to organize and communicate mathematical ideas. Mathematically proficient students apply what they know and are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas. They analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Lessons in every module engage students in modeling with mathematics as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules:

Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs
Algebra I M2: Descriptive Statistics
Algebra I M3: Linear and Exponential Functions
Algebra I M4: Polynomial and Quadratic Expressions, Equations, and Functions
Algebra I M5: A Synthesis of Modeling with Equations and Functions
# Process Standards for Mathematics

**PS.5: Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Mathematically proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. Mathematically proficient students identify relevant external mathematical resources, such as digital content, and use them to pose or solve problems. They use technological tools to explore and deepen their understanding of concepts and to support the development of learning mathematics. They use technology to contribute to concept development, simulation, representation, reasoning, communication, and problem solving.

# Aligned Components of *Eureka Math*

Lessons in every module engage students in using appropriate tools strategically as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules:
- Algebra I M2: Descriptive Statistics
- Algebra I M4: Polynomial and Quadratic Expressions, Equations, and Functions
- Algebra I M5: A Synthesis of Modeling with Equations and Functions
### Process Standards for Mathematics

#### PS.6: Attend to precision.
Mathematically proficient students communicate precisely to others. They use clear definitions, including correct mathematical language, in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They express solutions clearly and logically by using the appropriate mathematical terms and notation. They specify units of measure and label axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and check the validity of their results in the context of the problem. They express numerical answers with a degree of precision appropriate for the problem context.

Lessons in every module engage students in attending to precision as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules:
- Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs
- Algebra I M2: Descriptive Statistics
- Algebra I M4: Polynomial and Quadratic Expressions, Equations, and Functions
- Algebra I M5: A Synthesis of Modeling with Equations and Functions

#### PS.7: Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. They step back for an overview and shift perspective. They recognize and use properties of operations and equality. They organize and classify geometric shapes based on their attributes. They see expressions, equations, and geometric figures as single objects or as being composed of several objects.

Lessons in every module engage students in looking for and making use of structure as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 7, which is specifically addressed in the following modules:
- Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs
- Algebra I M3: Linear and Exponential Functions
- Algebra I M4: Polynomial and Quadratic Expressions, Equations, and Functions
**Process Standards for Mathematics**

**PS.8: Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated and look for general methods and shortcuts. They notice regularity in mathematical problems and their work to create a rule or formula. Mathematically proficient students maintain oversight of the process, while attending to the details as they solve a problem. They continually evaluate the reasonableness of their intermediate results.

<table>
<thead>
<tr>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
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<tbody>
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<td>Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This process standard is analogous to the CCSSM Standards for Mathematical Practice 8, which is specifically addressed in the following modules:</td>
</tr>
<tr>
<td>Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs</td>
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<td>Algebra I M3: Linear and Exponential Functions</td>
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| Data Analysis and Statistics  | **AI.DS.1** Understand statistics as a process for making inferences about a population based on a random sample from that population. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. | Algebra II M4 Lesson 12: Types of Statistical Studies  
Algebra II M4 Topic D: Drawing Conclusions Using Data from an Experiment |
|                               | **AI.DS.2** Understand that statistics and data are non-neutral and designed to serve a particular interest. Analyze the possibilities for whose interest might be served and how the representations might be misleading. | Algebra II M4 Lesson 12: Types of Statistical Studies  
*Note: Supplemental material may be necessary to completely address this standard.* |
|                               | **AI.DS.3** Use technology to find a linear function that models a relationship between two quantitative variables to make predictions, and interpret the slope and y-intercept. Using technology, compute and interpret the correlation coefficient. | Algebra I M2 Lesson 18: Analyzing Residuals  
Algebra I M2 Lesson 19: Interpreting Correlation  
Algebra I M2 Lesson 20: Analyzing Data Collected on Two Variables  
Algebra I M5 Lesson 7: Modeling a Context from Data |
|                               | **AI.DS.4** Distinguish between correlation and causation.                                                | Algebra I M2 Lesson 11: Conditional Relative Frequencies and Association  
Algebra I M2 Lesson 19: Interpreting Correlation  
Algebra I M2 Lesson 20: Analyzing Data Collected on Two Variables |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
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<tr>
<td>AI.DS.5</td>
<td><strong>Summarize bivariate categorical data in two-way frequency tables. Interpret relative frequencies in the contexts of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in data.</strong></td>
<td>Algebra I M2 Topic C: Categorical Data on Two Variables</td>
</tr>
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</table>
| Numbers Systems and Expressions | **AI.NE.1**  
Explain the hierarchy and relationships of numbers and sets of numbers within the complex number system. Know that there is an imaginary number, \(i\), such that \(\sqrt{-1} = i\). Understand that the imaginary numbers along with the real numbers form the complex number system. | Algebra II M1 Topic D: A Surprise from Geometry–Complex Numbers Overcome All Obstacles |
|                        | **AI.NE.2**  
Simplify algebraic rational expressions, with numerators and denominators containing monomial bases with integer exponents, to equivalent forms.                                                                                                           | Algebra II M1 Lesson 22: Equivalent Rational Expressions  
Algebra II M1 Lesson 23: Comparing Rational Expressions |
|                        | **AI.NE.3:**  
Simplify square roots of monomial algebraic expressions, including non-perfect squares.                                                                                                                                              | Algebra II M1 Lesson 9: Radicals and Conjugates  
Algebra II M3 Lesson 4: Properties of Exponents and Radicals |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
</table>
| **AI.NE.4** | Factor quadratic expressions (including the difference of two squares, perfect square trinomials and other quadratic expressions). | Algebra I M1 Lesson 17: Equations Involving Factored Expressions  
Algebra I M4 Topic A: Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles  
Algebra I M4 Lesson 12: Completing the Square |
| **AI.NE.5** | Add, subtract, and multiply polynomials. Divide polynomials by monomials. | Algebra I M1 Topic B: The Structure of Expressions  
Algebra I M4 Lessons 1–2: Multiplying and Factoring Polynomial Expressions  
Algebra I M4 Lessons 3–4: Advanced Factoring Strategies for Quadratic Expressions |
| **Functions** | **AI.F.1** | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. Understand that if $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$. Understand the graph of $f$ is the graph of the equation $y = f(x)$ with points of the form $(x, f(x))$.  
Algebra I M3 Lesson 1: Integer Sequences—Should You Believe in Patterns?  
Algebra I M3 Lesson 12: The Graph of the Equation $y = f(x)$ |
| Functions | **AI.F.2** | Evaluate functions for given elements of its domain, and interpret statements in function notation in terms of a context.  
Algebra I M3: Linear and Exponential Functions |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
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| AI.F.3 | Identify the domain and range of relations represented in tables, graphs, verbal descriptions, and equations. | Algebra I M1 Lesson 10: True and False Equations  
Algebra I M3 Lesson 1: Integer Sequences—Should You Believe in Patterns?  
Algebra I M3 Lesson 10: Representing, Naming, and Evaluating Functions  
Algebra I M3 Lesson 11: The Graph of a Function  
Algebra I M3 Lesson 12: The Graph of the Equation $y = f(x)$ |
<table>
<thead>
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<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
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| AI.F.4 | Describe, qualitatively, the functional relationship between two quantities by analyzing key features of a graph. Sketch a graph that exhibits given key features of a function that has been verbally described, including intercepts, where the function is increasing or decreasing, where the function is positive or negative, and any relative maximum or minimum values, identify the independent and dependent variables. | Algebra I M3 Lesson 13: Interpreting the Graph of a Function  
Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates  
Algebra I M3 Topic D: Using Functions and Graphs to Solve Problems  
Algebra I M4 Lesson 8: Exploring the Symmetry in Graphs of Quadratic Functions  
Algebra I M4 Lesson 9: Graphing Quadratic Functions from Factored Form, \( f(x) = a(x - m)(x - n) \)  
Algebra I M4 Lesson 10: Interpreting Quadratic Functions from Graphs and Tables  
Algebra I M4 Lesson 17: Graphing Quadratic Functions from the Standard Form, \( f(x) = ax^2 + bx + c \)  
Algebra I M4 Lesson 22: Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways  
Algebra I M5: A Synthesis of Modeling with Equations and Functions |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
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</tr>
</thead>
<tbody>
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<td>Linear Equations, Inequalities, and Functions</td>
<td><strong>AI.L.1</strong>&lt;br&gt;Represent real-world problems using linear equations and inequalities in one variable, including those with rational number coefficients and variables on both sides of the equal sign. Solve them fluently, explaining the process used and justifying the choice of a solution method.</td>
<td>Algebra I M1 Lesson 12: Solving Equations&lt;br&gt;Algebra I M1 Lesson 13: Some Potential Dangers when Solving Equations&lt;br&gt;Algebra I M1 Lesson 17: Equations Involving Factored Expressions&lt;br&gt;Algebra I M1 Lesson 18: Equations Involving a Variable Expression in the Denominator</td>
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<td><strong>AI.L.2</strong>&lt;br&gt;Solve compound linear inequalities in one variable, and represent and interpret the solution on a number line. Write a compound linear inequality given its number line representation.</td>
<td>Algebra I M1 Lesson 11: Solution Sets for Equations and Inequalities&lt;br&gt;Algebra I M1 Lesson 14: Solving Inequalities&lt;br&gt;Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by “And” or “Or”&lt;br&gt;Algebra I M1 Lesson 16: Solving and Graphing Inequalities Joined by “And” or “Or”</td>
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<td><strong>AI.L.3</strong>&lt;br&gt;Represent linear functions as graphs from equations (with and without technology), equations from graphs, and equations from tables and other given information (e.g., from a given point on a line and the slope of the line). Find the equation of a line, passing through a given point, that is parallel or perpendicular to a given line.</td>
<td>Algebra I M2 Lesson 16: More on Modeling Relationships with a Line&lt;br&gt;Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates&lt;br&gt;Algebra I M3 Lesson 21: Comparing Linear and Exponential Models Again&lt;br&gt;Algebra I M5: A Synthesis of Modeling with Equations and Functions</td>
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| **AI.L.4** | Represent real-world problems that can be modeled with a linear function using equations, graphs, and tables; translate fluently among these representations, and interpret the slope and intercepts. | Algebra I M2 Lesson 14: Modeling Relationships with a Line  
Algebra I M3: Linear and Exponential Functions  
Algebra I M5: A Synthesis of Modeling with Equations and Functions |
| **AI.L.5** | Translate among equivalent forms of equations for linear functions, including slope-intercept, point-slope, and standard. Recognize that different forms reveal more or less information about a given situation. | Algebra I M2 Lesson 16: More on Modeling Relationships with a Line  
Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates  
Algebra I M3 Lesson 21: Comparing Linear and Exponential Models Again  
Algebra I M5: A Synthesis of Modeling with Equations and Functions |
| **AI.L.6** | Represent real-world problems using linear inequalities in two variables and solve such problems; interpret the solution set and determine whether it is reasonable. Graph the solutions to a linear inequality in two variables as a halfplane. | Algebra I M1 Lesson 21: Solution Sets to Inequalities with Two Variables  
Algebra I M1 Lesson 22: Solution Sets to Simultaneous Equations  
Algebra I M1 Lesson 24: Applications of Systems of Equations and Inequalities |
<p>| <strong>AI.L.7</strong> | Solve linear and quadratic equations and formulas for a specified variable to highlight a quantity of interest, using the same reasoning as in solving equations. | Algebra I M1 Lesson 19: Rearranging Formulas |</p>
<table>
<thead>
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<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
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<td>Systems of Equations and Inequalities</td>
<td><strong>AI.SEI.1</strong>&lt;br&gt;Understand the relationship between a solution of a system of linear equations in two variables and the graphs of the corresponding lines. Solve pairs of linear equations in two variables by graphing; approximate solutions when the coordinates of the solution are non-integer numbers.</td>
<td>Algebra I M1 Lesson 20: Solution Sets to Equations with Two Variables&lt;br&gt;Algebra I M1 Lessons 22–23: Solution Sets to Simultaneous Equations&lt;br&gt;Algebra I M1 Lesson 24: Applications of Systems of Equations and Inequalities&lt;br&gt;Algebra I M4 Lesson 24: Modeling with Quadratic Functions</td>
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<td><strong>AI.SEI.2</strong>&lt;br&gt;Verify that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions, including cases with no solution and infinitely many solutions. Solve systems of two linear equations algebraically using substitution and elimination.</td>
<td>Algebra I M1 Lesson 23: Solution Sets to Simultaneous Equations</td>
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<td><strong>AI.SEI.3</strong>&lt;br&gt;Write a system of two linear equations in two variables that represents a real-world problem and solve the problem with and without technology. Interpret the solution and determine whether the solution is reasonable.</td>
<td>Algebra I M1 Lesson 24: Applications of Systems of Equations and Inequalities</td>
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| **AI.SEI.4**                 | Represent real-world problems using a system of two linear inequalities in two variables. Graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes with and without technology. Interpret the solution set and determine whether it is reasonable. | Algebra I M1 Lessons 22–23: Solution Sets to Inequalities with Two Variables  
Algebra I M1 Lesson 24: Applications of Systems of Equations and Inequalities |
| **Quadratic and Exponential Equations and Functions** | **AI.QE.1**  
Distinguish between situations that can be modeled with linear functions and with exponential functions. Understand that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. Compare linear functions and exponential functions that model real-world situations using tables, graphs, and equations. | Algebra I M3 Lesson 5: The Power of Exponential Growth  
Algebra I M3 Lesson 6: Exponential Growth—U.S. Population and World Population  
Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates  
Algebra I M3 Lesson 21: Comparing Linear and Exponential Models Again |
| **AI.QE.2**                  | Represent real-world and other mathematical problems that can be modeled with simple exponential functions using tables, graphs, and equations of the form $y = abx$ (for integer values of $x > 1$, rational values of $b > 0$ and $b \neq 1$) with and without technology; interpret the values of $a$ and $b$. | Algebra I M3: Linear and Exponential Functions  
Algebra I M5: A Synthesis of Modeling with Equations and Functions  
Algebra II M3 Lesson 1: Integer Exponents |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
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| AI.QE.3 | Use area models to develop the concept of completing the square to solve quadratic equations. Explore the relationship between completing the square and the quadratic formula. | Algebra I M4 Lesson 3: Advanced Factoring Strategies for Quadratic Expressions  
Algebra I M4 Lesson 4: Advanced Factoring Strategies for Quadratic Expressions  
Algebra I M4 Lesson 5: The Zero Product Property |
| AI.QE.4 | Solve quadratic equations in one variable by inspection (e.g., for \(x^2 = 49\)), finding square roots, using the quadratic formula, and factoring, as appropriate to the initial form of the equation. | Algebra I M4 Lesson 5: The Zero Product Property  
Algebra I M4 Lesson 6: Solving Basic One-Variable Quadratic Equations  
Algebra I M4 Lesson 7: Creating and Solving Quadratic Equations in One Variable  
Algebra I M4 Lesson 13: Solving Quadratic Equations by Completing the Square  
Algebra I M4 Lesson 14: Deriving the Quadratic Formula  
Algebra I M4 Lesson 15: Using the Quadratic Formula |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
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| AI.QE.5 | Represent real-world problems using quadratic equations in one or two variables and solve such problems with technology. Interpret the solution and determine whether it is reasonable. | Algebra I M1 Lesson 2: Graphs of Quadratic Functions  
Algebra I M1 Lesson 17: Equations Involving Factored Expressions  
Algebra I M4 Lesson 16: Graphing Quadratic Equations from the Vertex Form, $y = a(x - h)^2 + k$  
Algebra I M4 Lessons 23–24: Modeling with Quadratic Functions  
Algebra I M5: A Synthesis of Modeling with Equations and Functions |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
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</tr>
</thead>
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| AI.QE.6  | Graph exponential and quadratic functions with and without technology. Identify and describe key features, such as zeros, lines of symmetry, and extreme values in real-world and other mathematical problems involving quadratic functions with and without technology; interpret the results in the real-world contexts. | Algebra I M1 Lesson 2: Graphs of Quadratic Functions  
Algebra I M1 Lesson 3: Graphs of Exponential Functions  
Algebra I M3 Lesson 1: Integer Sequences—Should You Believe in Patterns?  
Algebra I M3 Lesson 4: Why Do Banks Pay YOU to Provide Their Services?  
Algebra I M3 Lesson 14: Linear and Exponential Models—Comparing Growth Rates  
Algebra I M3 Lesson 23: Newton’s Law of Cooling  
Algebra I M4 Lesson 10: Interpreting Quadratic Functions from Graphs and Tables  
Algebra I M4 Lesson 17: Graphing Quadratic Functions from the Standard Form, \( f(x) = ax^2 + bx + c \)  
Algebra I M4 Lesson 22: Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways  
Algebra I M4 Lessons 23–24: Modeling with Quadratic Functions |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards for Mathematical Content</th>
<th>Aligned Components of <em>Eureka Math</em></th>
</tr>
</thead>
<tbody>
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<td>AI.QE.7</td>
<td>Describe the relationships among the solutions of a quadratic equation, the zeros of the function, the ( x )-intercepts of the graph, and the factors of the expression. Explain that every quadratic has two complex solutions, which may or may not be real solutions.</td>
<td>Algebra II M1 Lesson 11: The Special Role of Zero in Factoring&lt;br&gt;Algebra II M1 Lesson 12: Overcoming Obstacles in Factoring&lt;br&gt;Algebra II M1 Lesson 13: Mastering Factoring&lt;br&gt;Algebra II M1 Lesson 14: Graphing Factored Polynomials</td>
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