Grade 8 | Mathematics Standards of Learning for Virginia Public Schools Correlation to *Eureka Math*®

About *Eureka Math*

Created by Great Minds®, a mission-driven Public Benefit Corporation, *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

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 growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

Full Suite of Resources

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

Mathematical Process Goals for Students	Aligned Components of *Eureka Math*
Mathematical Problem Solving	Lessons in every module engage students in mathematical processes.
Mathematical Communication	
Mathematical Reasoning	
Mathematical Connections	
Mathematical Representations	

Number and Number Sense

8.NS.1 The student will compare and order real numbers and determine the relationships between real numbers.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.NS.1.a Estimate and identify the two consecutive natural numbers between which the positive square root of a given number lies and justify which natural number is the better approximation. Numbers are limited to natural numbers from 1 to 400.	G8 M7 Lesson 1: The Pythagorean Theorem G8 M7 Lesson 2: Square Roots G8 M7 Lesson 3: The Existence and Uniqueness of Square Roots and Cube Roots G8 M7 Lesson 11: The Decimal Expansion of Some Irrational Numbers
8.NS.1.b Use rational approximations (to the nearest hundredth) of irrational numbers to compare, order, and locate values on a number line. Radicals may include both positive and negative square roots of values from 0 to 400 yielding an irrational number.	G8 M7 Lesson 11: The Decimal Expansion of Some Irrational Numbers G8 M7 Lesson 13: Comparing Irrational Numbers *Supplemental material is necessary to address using rational approximations of irrational numbers to compare, order, and locate negative square roots of values from 0 to 400 yielding irrational numbers.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.NS.1.c Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare and order no more than five real numbers expressed as integers, fractions (proper or improper), decimals, mixed numbers, percents, numbers written in scientific notation, radicals, and π. Radicals may include both positive and negative square roots of values from 0 to 400. Ordering may be in ascending or descending order. Justify solutions orally, in writing or with a model.	G8 M1 Lesson 13: Comparison of Numbers Written in Scientific Notation and Interpreting Scientific Notation Using Technology G8 M7 Lesson 13: Comparing Irrational Numbers *Supplemental material is necessary to fully address this standard.*

Number and Number Sense

8.NS.2 The student will investigate and describe the relationship between the subsets of the real number system.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.NS.2.a Describe and illustrate the relationships among the subsets of the real number system by using representations (e.g., graphic organizers, number lines). Subsets include rational numbers, irrational numbers, integers, whole numbers, and natural numbers.	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.NS.2.b Classify and explain why a given number is a member of a particular subset or subsets of the real number system.	G8 M7 Topic B: Decimal Expansions of Numbers *Supplemental material is necessary to address subsets of rational numbers.*
8.NS.2.c Describe each subset of the set of real numbers and include examples and non-examples.	G8 M7 Topic B: Decimal Expansions of Numbers *Supplemental material is necessary to address subsets of rational numbers.*

Computation and Estimation

8.CE.1 The student will estimate and apply proportional reasoning and computational procedures to solve contextual problems.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.CE.1.a Estimate and solve contextual problems that require the computation of one discount or markup and the resulting sale price.	G7 M1 Lesson 14: Multi-Step Ratio Problems G7 M4 Lesson 7: Markup and Markdown Problems
8.CE.1.b Estimate and solve contextual problems that require the computation of the sales tax, tip and resulting total.	G7 M4 Lesson 6: Fluency with Percents G7 M4 Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Applications

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.CE.1.c Estimate and solve contextual problems that require the computation of the percent increase or decrease.	G7 M4 Lesson 4: Percent Increase and Decrease G7 M4 Lesson 7: Markup and Markdown Problems G7 M4 Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Applications G7 M4 Lesson 16: Population Problems

Measurement and Geometry

8.MG.1 The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.1.a Identify and describe the relationship between pairs of angles that are vertical, adjacent, supplementary, and complementary.	G7 M3 Lesson 10: Angle Problems and Solving Equations G7 M3 Lesson 11: Angle Problems and Solving Equations G7 M6 Topic A: Unknown Angles
8.MG.1.b Use the relationships among supplementary, complementary, vertical, and adjacent angles to solve problems, including those in context, involving the measure of unknown angles.	G7 M3 Lesson 10: Angle Problems and Solving Equations G7 M3 Lesson 11: Angle Problems and Solving Equations G7 M6 Topic A: Unknown Angles

Measurement and Geometry

8.MG.2 The student will investigate and determine the surface area of square-based pyramids and the volume of cones and square-based pyramids.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.2.a Determine the surface area of square-based pyramids by using concrete objects, nets, diagrams, and formulas.	G7 M3 Lesson 22: Surface Area G7 M6 Lesson 23: Surface Area G7 M6 Lesson 24: Surface Area *Supplemental material is necessary to address determining surface area by using concrete objects and nets.*
8.MG.2.b Determine the volume of cones and square-based pyramids, using concrete objects, diagrams, and formulas.	G8 M5 Lesson 10: Volumes of Familiar Solids—Cones and Cylinders G8 M7 Lesson 19: Cones and Spheres G8 M7 Lesson 20: Truncated Cones G8 M7 Lesson 21: Volume of Composite Solids
8.MG.2.c Examine and explain the relationship between the volume of cones and cylinders, and the volume of rectangular prisms and square-based pyramids.	G8 M5 Lesson 10: Volumes of Familiar Solids—Cones and Cylinders G8 M7 Lesson 19: Cones and Spheres
8.MG.2.d Solve problems in context involving volume of cones and square-based pyramids and the surface area of square-based pyramids.	G7 M3 Lesson 22: Surface Area G8 M7 Lesson 20: Truncated Cones G8 M7 Lesson 21: Volume of Composite Solids

Measurement and Geometry

8.MG.3 The student will apply translations and reflections to polygons in the coordinate plane.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.3.a Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been translated vertically, horizontally, or a combination of both.	*Supplemental material is necessary to address this standard.*
8.MG.3.b Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been reflected over the x- or y-axis.	*Supplemental material is necessary to address this standard.*
8.MG.3.c Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been translated and reflected over the x- or y-axis or reflected over the x- or y-axis and then translated.	*Supplemental material is necessary to address this standard.*
8.MG.3.d Sketch the image of a polygon that has been translated vertically, horizontally, or a combination of both.	G8 M2 Lesson 2: Definition of Translation and Three Basic Properties G8 M2 Lesson 3: Translating Lines G8 M2 Lesson 7: Sequencing Translations *Supplemental material is necessary to address translations in the coordinate plane.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.3.e Sketch the image of a polygon that has been reflected over the x- or y-axis.	G8 M2 Lesson 4: Definition of Reflection and Basic Properties *Supplemental material is necessary to address reflections in the coordinate plane.*
8.MG.3.f Sketch the image of a polygon that has been translated and reflected over the x- or y-axis, or reflected over the x- or y-axis and then translated.	G8 M2 Lesson 8: Sequencing Reflections and Translations *Supplemental material is necessary to address sketching the images of polygons that have been reflected over the x- or y-axis.*
8.MG.3.g Identify and describe transformations in context (e.g., tiling, fabric, wallpaper designs, art).	*Supplemental material is necessary to address this standard.*

Measurement and Geometry

8.MG.4 The student will apply the Pythagorean Theorem to solve problems involving right triangles, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.4.a Verify the Pythagorean Theorem using diagrams, concrete materials, and measurement.	G8 M2 Lesson 15: Informal Proof of the Pythagorean Theorem *Supplemental material is necessary to address verifying the Pythagorean Theorem using concrete materials.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.4.b Determine whether a triangle is a right triangle given the measures of its three sides.	G8 M3 Lesson 14: The Converse of the Pythagorean Theorem
8.MG.4.c Identify the parts of a right triangle (the hypotenuse and the legs) given figures in various orientations.	G8 M2 Lesson 15: Informal Proof of the Pythagorean Theorem *Supplemental material is necessary to fully address this standard.*
8.MG.4.d Determine the measure of a side of a right triangle, given the measures of the other two sides.	G8 M2 Topic D: The Pythagorean Theorem G8 M3 Lesson 13: Proof of the Pythagorean Theorem G8 M7 Lesson 1: The Pythagorean Theorem G8 M7 Lesson 18: Applications of the Pythagorean Theorem
8.MG.4.e Apply the Pythagorean Theorem, and its converse, to solve problems involving right triangles in context.	G8 M2 Topic D: The Pythagorean Theorem G8 M3 Topic C: The Pythagorean Theorem G8 M7 Lesson 1: The Pythagorean Theorem G8 M7 Lesson 18: Applications of the Pythagorean Theorem

Measurement and Geometry

8.MG.5 The student will solve area and perimeter problems involving composite plane figures, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.MG.5.a Subdivide a plane figure into triangles, rectangles, squares, trapezoids, parallelograms, circles, and semicircles. Determine the area of subdivisions and combine to determine the area of the composite plane figure.	G7 M3 Lesson 19: Unknown Area Problems on the Coordinate Plane G7 M3 Lesson 20: Composite Area Problems
8.MG.5.b Subdivide a plane figure into triangles, rectangles, squares, trapezoids, parallelograms, and semicircles. Use the attributes of the subdivisions to determine the perimeter of the composite plane figure.	*Supplemental material is necessary to address this standard.*
8.MG.5.c Apply perimeter, circumference, and area formulas to solve contextual problems involving composite plane figures.	G7 M3 Lesson 19: Unknown Area Problems on the Coordinate Plane G7 M3 Lesson 20: Composite Area Problems *Supplemental material is necessary to address applying perimeter formulas to solve contextual problems involving composite plane figures.*

Probability and Statistics

8.PS.1 The student will use statistical investigation to determine the probability of independent and dependent events, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.1.a Determine whether two events are independent or dependent and explain how replacement impacts the probability.	*Supplemental material is necessary to address this standard.*
8.PS.1.b Compare and contrast the probability of independent and dependent events.	*Supplemental material is necessary to address this standard.*
8.PS.1.c Determine the probability of two independent events.	G7 M5 Lesson 6: Using Tree Diagrams to Represent a Sample Space and to Calculate Probabilities G7 M5 Lesson 7: Calculating Probabilities of Compound Events
8.PS.1.d Determine the probability of two dependent events.	*Supplemental material is necessary to address this standard.*

Probability and Statistics

8.PS.2 The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on boxplots.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.2.a Formulate questions that require the collection or acquisition of data with a focus on boxplots.	Algebra I M2 Topic A: Shapes and Centers of Distributions Algebra I M2 Topic B: Describing Variability and Comparing Distributions *Supplemental material is necessary to address data with a focus on boxplots.*
8.PS.2.b Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments).	Algebra I M2 Topic A: Shapes and Centers of Distributions Algebra I M2 Topic B: Describing Variability and Comparing Distributions
8.PS.2.c Determine how statistical bias might affect whether the data collected from the sample is representative of the larger population.	G7 M5 Lesson 13: Populations, Samples, and Generalizing from a Sample to a Population G7 M5 Lesson 14: Selecting a Sample G7 M5 Lesson 15: Random Sampling
8.PS.2.d Organize and represent a numeric data set of no more than 20 items, using boxplots, with and without the use of technology.	Algebra I M2 Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range) *Supplemental material is necessary to address representing a numeric data set using box plots with the use of technology.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.2.e Identify and describe the lower extreme (minimum), upper extreme (maximum), median, upper quartile, lower quartile, range, and interquartile range given a data set, represented by a boxplot.	Algebra I M2 Lesson 1: Distributions and Their Shapes Algebra I M2 Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range) Algebra I M2 Lesson 8: Comparing Distributions
8.PS.2.f Describe how the presence of an extreme data point (outlier) affects the shape and spread of the data distribution of a boxplot.	Algebra I M2 Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range) Algebra I M2 Lesson 8: Comparing Distributions
8.PS.2.g Analyze data represented in a boxplot by making observations and drawing conclusions.	Algebra I M2 Lesson 1: Distributions and Their Shapes Algebra I M2 Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range) Algebra I M2 Lesson 8: Comparing Distributions
8.PS.2.h Compare and analyze two data sets represented in boxplots.	Algebra I M2 Lesson 8: Comparing Distributions
8.PS.2.i Given a contextual situation, justify which graphical representation (e.g., pictographs, bar graphs, line graphs, line plots/dot plots, stem-and-leaf plots, circle graphs, histograms, and boxplots) best represents the data.	Algebra I M2 Lesson 1: Distributions and Their Shapes *Supplemental material is necessary to address representations, such as pictographs, bar graphs, line graphs, stem-and-leaf plots, and circle graphs.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.2.j Identify components of graphical displays that can be misleading.	*Supplemental material is necessary to address this standard.*

Probability and Statistics

8.PS.3 The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on scatterplots.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.3.a Formulate questions that require the collection or acquisition of data with a focus on scatterplots.	*Supplemental material is necessary to address this standard.*
8.PS.3.b Determine the data needed to answer a formulated question and collect the data (or acquire existing data) of no more than 20 items using various methods (e.g., observations, measurement, surveys, experiments).	*Supplemental material is necessary to address this standard.*
8.PS.3.c Organize and represent numeric bivariate data using scatterplots with and without the use of technology.	G8 M6 Lesson 6: Scatter Plots G8 M6 Lesson 7: Patterns in Scatter Plots G8 M6 Lesson 11: Using Linear Models in a Data Context G8 M6 Lesson 12: Nonlinear Models in a Data Context

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PS.3.d Make observations about a set of data points in a scatterplot as having a positive linear relationship, a negative linear relationship, or no relationship.	G8 M6 Lesson 6: Scatter Plots G8 M6 Lesson 7: Patterns in Scatter Plots G8 M6 Lesson 11: Using Linear Models in a Data Context G8 M6 Lesson 12: Nonlinear Models in a Data Context
8.PS.3.e Analyze and justify the relationship of the quantitative bivariate data represented in scatterplots.	G8 M6 Lesson 6: Scatter Plots G8 M6 Lesson 7: Patterns in Scatter Plots G8 M6 Lesson 11: Using Linear Models in a Data Context G8 M6 Lesson 12: Nonlinear Models in a Data Context
8.PS.3.f Sketch the line of best fit for data represented in a scatterplot.	G8 M6 Lesson 8: Informally Fitting a Line G8 M6 Lesson 9: Determining the Equation of a Line Fit to Data G8 M6 Lesson 11: Using Linear Models in a Data Context G8 M6 Lesson 12: Nonlinear Models in a Data Context

Patterns, Functions, and Algebra

8.PFA.1 The student will represent, simplify, and generate equivalent algebraic expressions in one variable.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.1.a Represent algebraic expressions using concrete manipulatives or pictorial representations (e.g., colored chips, algebra tiles), including expressions that apply the distributive property.	G7 M2 Lesson 19: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 21: If-Then Moves with Integer Number Cards G7 M3 Topic A: Use Properties of Operations to Generate Equivalent Expressions

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.1.b Simplify and generate equivalent algebraic expressions in one variable by applying the order of operations and properties of real numbers. Expressions may need to be expanded (using the distributive property) or require combining like terms to simplify. Expressions will include only linear and numeric terms. Coefficients and numeric terms may be rational.	G7 M2 Lesson 18: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 19: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 21: If-Then Moves with Integer Number Cards G7 M3 Topic A: Use Properties of Operations to Generate Equivalent Expressions

Patterns, Functions, and Algebra

8.PFA.2 The student will determine whether a given relation is a function and determine the domain and range of a function.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.2.a Determine whether a relation, represented by a set of ordered pairs, a table, or a graph of discrete points is a function. Sets are limited to no more than 10 ordered pairs.	G8 M5 Lesson 1: The Concept of a Function G8 M5 Lesson 2: Formal Definition of a Function G8 M5 Lesson 4: More Examples of Functions G8 M5 Lesson 5: Graphs of Functions and Equations G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change G8 M5 Lesson 8: Graphs of Simple Nonlinear Functions

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.2.b Identify the domain and range of a function represented as a set of ordered pairs, a table, or a graph of discrete points.	Algebra I M3 Lesson 1: Integer Sequences—Should You Believe in Patterns? Algebra I M3 Lesson 9: Representing, Naming, and Evaluating Functions 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 $y = f(x)$

Patterns, Functions, and Algebra

8.PFA.3 The student will represent and solve problems, including those in context, by using linear functions and analyzing their key characteristics (the value of the y-intercept (b) and the coordinates of the ordered pairs in graphs will be limited to integers).

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.3.a Determine how adding a constant (b) to the equation of a proportional relationship $y = mx$ will translate the line on a graph.	G8 M4 Lesson 15: The Slope of a Non-Vertical Line G8 M4 Lesson 16: The Computation of the Slope of a Non-Vertical Line
8.PFA.3.b Describe key characteristics of linear functions including slope (m), y-intercept (b), and independent and dependent variables.	G8 M5 Lesson 3: Linear Functions and Proportionality G8 M5 Lesson 5: Graphs of Functions and Equations G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change G8 M5 Lesson 7: Comparing Linear Functions and Graphs G8 M6 Lesson 1: Modeling Linear Relationships G8 M6 Lesson 2: Interpreting Rate of Change and Initial Value G8 M6 Lesson 3: Representations of a Line

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.3.c Graph a linear function given a table, equation, or a situation in context.	G8 M6 Lesson 1: Modeling Linear Relationships G8 M6 Lesson 2: Interpreting Rate of Change and Initial Value G8 M6 Lesson 3: Representations of a Line
8.PFA.3.d Create a table of values for a linear function given a graph, equation in the form of $y = mx + b$, or context.	G8 M6 Lesson 1: Modeling Linear Relationships G8 M6 Lesson 2: Interpreting Rate of Change and Initial Value G8 M6 Lesson 3: Representations of a Line
8.PFA.3.e Write an equation of a linear function in the form $y = mx + b$, given a graph, table, or a situation in context.	G8 M6 Lesson 1: Modeling Linear Relationships G8 M6 Lesson 2: Interpreting Rate of Change and Initial Value G8 M6 Lesson 3: Representations of a Line
8.PFA.3.f Create a context for a linear function given a graph, table, or equation in the form $y = mx + b$.	*Supplemental material is necessary to address this standard.*

Patterns, Functions, and Algebra

8.PFA.4 The student will write and solve multistep linear equations in one variable, including problems in context that require the solution of a multistep linear equation in one variable.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.4.a Represent and solve multistep linear equations in one variable with the variable on one or both sides of the equation (up to four steps) using a variety of concrete materials and pictorial representations.	*Supplemental material is necessary to address this standard.*
8.PFA.4.b Apply properties of real numbers and properties of equality to solve multistep linear equations in one variable (up to four steps). Coefficients and numeric terms will be rational. Equations may contain expressions that need to be expanded (using the distributive property) or require combining like terms to solve.	G8 M4 Lesson 4: Solving a Linear Equation G8 M4 Lesson 5: Writing and Solving Linear Equations G8 M4 Lesson 6: Solutions of a Linear Equation G8 M4 Lesson 8: Linear Equations in Disguise G8 M4 Lesson 9: An Application of Linear Equations
8.PFA.4.c Write a multistep linear equation in one variable to represent a verbal situation, including those in context.	G8 M4 Lesson 1: Writing Equations Using Symbols G8 M4 Lesson 5: Writing and Solving Linear Equations G8 M4 Lesson 8: Linear Equations in Disguise G8 M4 Lesson 9: An Application of Linear Equations

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.4.d Create a verbal situation in context given a multistep linear equation in one variable.	*Supplemental material is necessary to address this standard.*
8.PFA.4.e Solve problems in context that require the solution of a multistep linear equation.	G8 M4 Lesson 5: Writing and Solving Linear Equations G8 M4 Lesson 8: Linear Equations in Disguise G8 M4 Lesson 9: An Application of Linear Equations
8.PFA.4.f Interpret algebraic solutions in context to linear equations in one variable.	G8 M4 Lesson 5: Writing and Solving Linear Equations G8 M4 Lesson 8: Linear Equations in Disguise G8 M4 Lesson 9: An Application of Linear Equations
8.PFA.4.g Confirm algebraic solutions to linear equations in one variable.	G8 M4 Lesson 3: Linear Equations in x G8 M4 Lesson 4: Solving a Linear Equation G8 M4 Lesson 6: Solutions of a Linear Equation

Patterns, Functions, and Algebra

8.PFA.5 The student will write and solve multistep linear inequalities in one variable, including problems in context that require the solution of a multistep linear inequality in one variable.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.5.a Apply properties of real numbers and properties of inequality to solve multistep linear inequalities (up to four steps) in one variable with the variable on one or both sides of the inequality. Coefficients and numeric terms will be rational. Inequalities may contain expressions that need to be expanded (using the distributive property) or require combining like terms to solve.	Algebra I M1 Lesson 14: Solving Inequalities Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" Algebra I M1 Lesson 16: Solving and Graphing Inequalities Joined by "And" or "Or"
8.PFA.5.b Represent solutions to inequalities algebraically and graphically using a number line.	Algebra I M1 Lesson 14: Solving Inequalities Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" Algebra I M1 Lesson 16: Solving and Graphing Inequalities Joined by "And" or "Or"
8.PFA.5.c Write multistep linear inequalities in one variable to represent a verbal situation, including those in context.	Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" *Supplemental material is necessary to fully address this standard.*
8.PFA.5.d Create a verbal situation in context given a multistep linear inequality in one variable.	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math*
8.PFA.5.e Solve problems in context that require the solution of a multistep linear inequality in one variable.	Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" *Supplemental material is necessary to fully address this standard.*
8.PFA.5.f Identify a numerical value(s) that is part of the solution set of a given inequality.	Algebra I M1 Lesson 14: Solving Inequalities Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" Algebra I M1 Lesson 16: Solving and Graphing Inequalities Joined by "And" or "Or"
8.PFA.5.g Interpret algebraic solutions in context to linear inequalities in one variable.	Algebra I M1 Lesson 15: Solution Sets of Two or More Equations (or Inequalities) Joined by "And" or "Or" *Supplemental material is necessary to fully address this standard.*