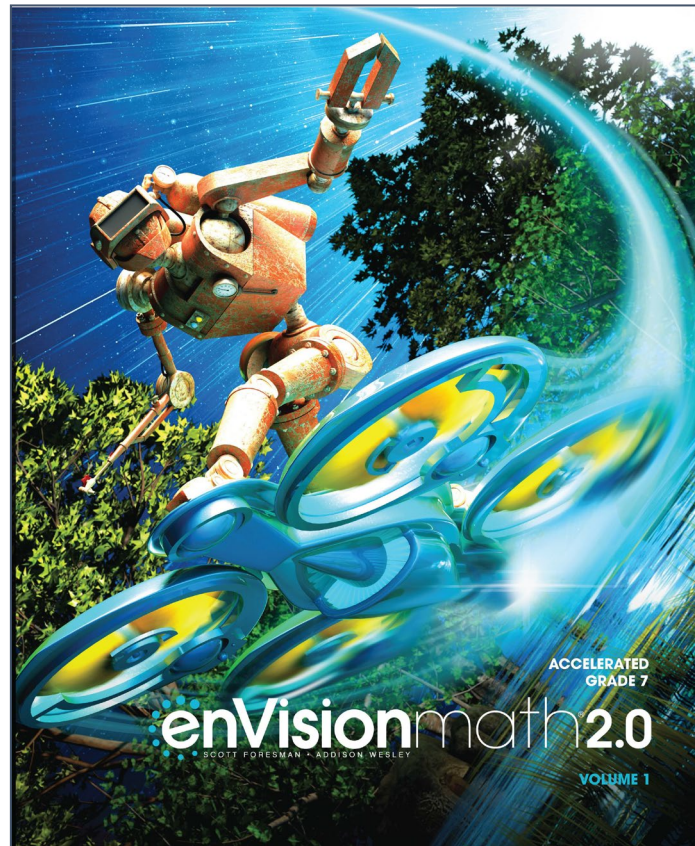


enVisionmath[®]2.0
SCOTT FORESMAN • ADDISON WESLEY

Accelerated Grade 7

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for

**Montgomery County, Maryland
C2.0 Investigations into
Mathematics**

SAVVAS
LEARNING COMPANY

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for Montgomery County C2.0 Investigations into Mathematics

Introduction

enVisionmath2.0 Grades 6-8 provides a rigorous scope and sequence that addresses the latest information on the market, aligning to the next generation assessments and major content emphases requirements. This document provides a concise alignment of **enVisionmath2.0** Accelerated Grade 7 to the concepts of the Montgomery County C2.0 Investigations into Mathematics (IM) Unit Course Outlines with the fundamental lesson(s) for each concept denoted in **bold text**. We also provide a correlation of **enVisionmath2.0** Accelerated Grade 7 to the Common Core State Standards for Mathematics.

While maintaining the research-based instructional model of the **enVisionmath2.0** elementary series, the Grades 6-8 program drives the effective use of new technology to personalize learning and improve outcomes. Dynamic, interactive content objects offer robust support of the instructional model as an authentic learning experience. This allows for the curriculum to be taught in a variety of classroom models.

Problem-Based Learning, key to learners' conceptual development, is the first step of every lesson in the student print component and as a digital experience at every grade. Visual learning, supported with engaging interactivities through Visual Learning Plus animations, formalizes mathematical learning. Point-of-use supports in MathXL® for School online homework provide on-demand support and tutorials, enhancing independent practice.

enVisionmath2.0 offers a rich library of differentiation resources for every lesson that include STEM projects, enrichment activities, and a robust mathematical literacy thread, to name just a few. Combined with a great variety of system- and teacher-driven engaging experiences for all levels of learners through digital tools, games, and interactive workspaces, the program truly meets the needs of all students.

Print components include a write-in Student's Edition, an Additional Practice Workbook, a 2-volume Teacher's Edition, and a variety of supporting components. **enVisionmath2.0** Grades 6-8 is powered by Pearson's Realize learning management system, providing teachers with the ability to customize content, auto-assign differentiation, and use assessment data quickly and easily. In addition, online assessments are in the format of the new high-stakes assessments.

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for Montgomery County C2.0 Investigations into Mathematics

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Concepts of the Montgomery County C2.0 Investigations into Mathematics
Unit Course Outlines**

Montgomery County C2.0 Investigations into Mathematics Unit 1 Course Outline Ratios and Proportional Relationships	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 1: Understanding Proportional Relationships In this topic, students extend their understanding by reasoning about ratios and proportional relationships. They identify unit rates in representations of proportional relationships. Students also work with equations in two variables to represent and analyze proportional relationships. This topic concludes with students consolidating their graphical understandings of proportional relationships.</p>	
Solve rate and ratio problems using multiple representations.	3-1 Connect Ratios, Rates, and Unit Rates ; 3-2 Determine Unit Rates with Ratios of Fractions
Determine unit rates with rational numbers.	3-1 Connect Ratios, Rates, and Unit Rates; 3-2 Determine Unit Rates with Ratios of Fractions
Solve scenarios using unit rates.	3-2 Determine Unit Rates with Ratios of Fractions
Understand what makes ratios proportional.	3-3 Understand Proportional Relationships: Equivalent Ratios
Identify proportional and non-proportional relationships in tables and graphs.	3-5 Graph Proportional Relationships , 3-6 Apply Proportional Reasoning to Solve Problems
Reason about the unit rate as a constant rate of proportionality.	3-2 Determine Unit Rates with Ratios of Fractions , 3-4 Describe Proportional Relationships: Constant of Proportionality
Analyze proportional relationships using multiple representations.	3-3 Understand Proportional Relationships: Equivalent Ratios ; 3-4 Describe Proportional Relationships: Constant of Proportionality
Interpret graphs of proportional relationships.	3-5 Graph Proportional Relationships

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Montgomery County C2.0 Investigations into Mathematics Unit 1 Course Outline Ratios and Proportional Relationships	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 2: Application of Proportional Relationships In this topic, students solve multi-step ratio and percent problems. They will continue to use diagrams, models, and ratio tables, extending this use to finding unit rates and solving percent problems. Students continue to connect their work with equations to their work with tables and diagrams. They are also introduced to scale drawings and determine the relationship between scale factor and proportions.</p>	
Explore scale drawings using the constant of proportionality.	10-1 Solve Problems Involving Scale Drawings
Compare the scale factors of lengths and area in scale drawings.	10-1 Solve Problems Involving Scale Drawings
Use a given scale drawing to reproduce the drawing at a different scale.	10-1 Solve Problems Involving Scale Drawings
Explore percents as proportional relationships.	4-2 Connect Percent and Proportion
Compare two quantities using percentages.	4-1 Solve Percent Change and Percent Error Problems , Topic 4 3-Act Mathematical Modeling: The Smart Shopper
Investigate the relationship between percent increase and decrease.	4-4 Solve Percent Change and Percent Error Problems
Analyze and solve scenarios involving markups and markdowns.	4-5 Solve Markup and Markdown Problems
Analyze and solve scenarios involving gratuity, tax, and commission.	4-1 Analyze Percents of Numbers, 4-3 Represent and Use the Percent Equation

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<p style="text-align: center;">Montgomery County C2.0 Investigations into Mathematics Unit 1 Course Outline Ratios and Proportional Relationships</p>	<p style="text-align: center;">enVisionmath2.0 Accelerated Grade 7 Lessons</p>
<p>Analyze and solve scenarios involving simple interest.</p>	<p>4-6 Solve Simple Interest Problems</p>
<p>Apply proportional reasoning to solve multi-step ratio scenarios.</p>	<p>3-6 Apply Proportional Reasoning to Solve Problems, 4-2 Connect Percent and Proportion</p>
<p>Analyze and solve scenarios involving percent error.</p>	<p>4-4 Solve Percent Change and Percent Error Problems</p>

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Montgomery County C2.0 Investigations into Mathematics Unit 2 Course Outline Rational Number Operations	enVisionmath2.0 Accelerated Grade 7 Lessons
Topic 1: Building Understanding of Rational Number Operations	
In Grade 7, students extend their knowledge of the location of rational numbers on the number line to representing operations with both positive and negative rational numbers on the number line. They are expected to transition from demonstrating understanding of operations with rational numbers through multiple representations to fluency with rational number arithmetic. They are expected to demonstrate fluency with rational number arithmetic by the end of Grade 7.	
Reason about quantities that combine to equal zero.	1-1 Relate Integers and Their Opposites, 1-3 Add Integers
Reason about distance and direction on the number line to add rational numbers.	1-3 Add Integers, 1-5 Add and Subtract Rational Numbers
Interpret subtraction by comparing it to the distance on a number line.	1-4 Subtract Integers, 1-5 Add and Subtract Rational Numbers
Interpret addition and subtraction by comparing it to distance and direction on a number line.	1-3 Add Integers, 1-4 Subtract Integers
Apply properties of operations as strategies to add and subtract rational numbers.	1-5 Add and Subtract Rational Numbers
Fluently add and subtract rational numbers.	1-5 Add and Subtract Rational Numbers
Explore patterns to make generalizations about multiplication with rational numbers.	1-6 Multiply Integers, 1-7 Multiply Rational Numbers
Apply properties to prove rules for multiplying rational numbers.	1-7 Multiply Rational Numbers
Explore division with rational numbers; including division by zero.	1-8 Divide Integers, 1-9 Divide Rational Numbers

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Montgomery County C2.0 Investigations into Mathematics Unit 2 Course Outline Rational Number Operations	enVisionmath2.0 Accelerated Grade 7 Lessons
Apply properties to efficiently multiply and divide rational numbers.	1-7 Multiply Rational Numbers, 1-9 Divide Rational Numbers
Convert a rational number to a decimal using long division.	1-2 Understand Rational Numbers, 2-1 Rational Numbers as Decimals
Apply mental calculations to assess the reasonableness of answers.	1-5 Add and Subtract Rational Numbers, 6-3 Solve Equations Using the Distributive Property
Fluently add, subtract, multiply, and divide rational numbers.	1-5 Add and Subtract Rational Numbers, 1-7 Multiply Rational Numbers, 1-9 Divide Rational Numbers
<p>Topic 2: Integrating Rational Number Operations in Expressions & Equations Students extend their understanding of properties of operations to linear expressions with rational coefficients. Students apply these understandings in both mathematical and real world context. They use the arithmetic of rational numbers to generate algebraic expressions and produce different but equivalent expressions for varied purposes. Students model, solve, and analyze multi-step equations and inequalities to represent a situation using defined variables and appropriate units.</p>	
Explore and model scenarios using algebraic expressions.	5-1 Write and Evaluate Algebraic Expressions
Factor linear expressions with rational coefficients.	5-5 Factor Expressions
Determine equivalent expressions from given expressions.	5-2 Generate Equivalent Expressions, 5-3 Simplify Expressions
Model and solve expressions, equations, and inequalities.	Topic 5 3-Act Mathematical Modeling: I've Got You Covered, Topic 6 3-Act Mathematical Modeling: Digital Downloads

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<p style="text-align: center;">Montgomery County C2.0 Investigations into Mathematics Unit 2 Course Outline Rational Number Operations</p>	<p style="text-align: center;">enVisionmath2.0 Accelerated Grade 7 Lessons</p>
<p>Solve multi-step equations and inequalities.</p>	<p>6-2 Solve Two-Step Equations, 6-6 Solve Two-Step Inequalities</p>
<p>Reason about solving inequalities with a negative coefficient.</p>	<p>6-5 Solve Inequalities Using Multiplication or Division</p>
<p>Model a given scenario in multiple ways and assess the reasonableness of the solution.</p>	<p>Topic 5 3-Act Mathematical Modeling: I've Got You Covered, Topic 6 3-Act Mathematical Modeling: Digital Downloads</p>
<p>Solve problems by reasoning about the quantities.</p>	<p>5-8 Analyze Equivalent Expressions, Topic 6 3-Act Mathematical Modeling: Digital Downloads</p>

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Unit Course Outlines**

Montgomery County C2.0 Investigations into Mathematics Unit 3 Course Outline Expressing Geometric Relationships	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 1: Measurement in Two and Three Dimensions In this topic, students extend their understanding of perimeter and area beyond polygons to include circles. They develop an understanding of pi as a ratio and use this ratio to determine area and circumference. Students continue to apply their understanding of composition and decomposition of shapes to find the area of composite figures and surface area of 3D figures. Students utilize drawings and physical models to visualize 3D figures, determine their volume, and describe their attributes when sliced by a plane. They will solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>	
Determine the relationship between circumference and diameter.	10-5 Solve Problems Involving Circumference of a Circle , 10-6 Solve Problems Involving Area of a Circle
Derive the relationship between the circumference and area of a circle.	10-5 Solve Problems Involving Circumference of a Circle, 10-6 Solve Problems Involving Area of a Circle
Draw circles and polygons and determine the area and perimeter.	10-2 Draw Geometric Figures, 10-6 Solve Problems Involving Area of a Circle
Determine the area of composite figures.	10-8 Solve Problems Involving Surface Area , 12-1 Find Surface Area of Three-Dimensional Figures
Explore the relationship between surface area and volume.	10-8 Solve Problems Involving Surface Area, 10-9 Solve Problems Involving Volume
Describe the two-dimensional figures that result from slices of rectangular prisms.	10-7 Describe Cross Sections
Describe the two-dimensional figures that result from slices of rectangular pyramids.	10-7 Describe Cross Sections
Determine the volume of composite figures.	10-9 Solve Problems Involving Volume , 12-4 Find Volume of Spheres

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Montgomery County C2.0 Investigations into Mathematics Unit 3 Course Outline Expressing Geometric Relationships	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 2: Angle Relationships In this topic students investigate angle relationships and use these relationships to solve for unknown angle measures in a figure. They use their understanding of angles to draw triangles and extend this understanding to draw other geometric shapes. Students also explore the conditions necessary to determine whether a given set of measurements will create one unique triangle, multiple unique triangles, or cannot form a triangle.</p>	
Reason about the relationship between two or more angles.	10-4 Solve Problems Using Angle Relationships
Determine the angle relationship created by intersecting lines.	10-4 Solve Problems Using Angle Relationships
Apply angle relationships to write and solve equations for missing angles.	10-4 Solve Problems Using Angle Relationships
Draw triangles using angle measures.	10-3 Draw Triangles with Given Conditions
Draw geometric shapes with given conditions.	10-2 Draw Geometric Figures, 10-3 Draw Triangles with Given Conditions
Explore conditions necessary for a unique triangle.	10-3 Draw Triangles with Given Conditions
Synthesize the conditions necessary for a unique triangle.	10-3 Draw Triangles with Given Conditions

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Montgomery County C2.0 Investigations into Mathematics Unit 4 Course Outline Statistics and Probability	enVisionmath2.0 Accelerated Grade 7 Lessons
Topic 1: Chance Events and Probability Models	
In this topic, students build an understanding of simple probability by exploring the chance that a desired outcome will occur within an identified sample space in both theoretical and empirical scenarios. Students will use a variety of tools including number cubes, spinners, computer-based technology, and/or graphing calculators. They extend their understanding to include compound events. Students create and use probability models and simulations to collect data and estimate probabilities for real-world contexts.	
Describe how probability expresses the likelihood of an event occurring.	9-1 Understand Likelihood and Probability , 9-2 Understand Theoretical Probability
Use relative frequency to explore empirical probability and theoretical probability.	9-2 Understand Theoretical Probability, 9-3 Understand Experimental Probability
Compare estimated probabilities to those predicted by a uniform probability model.	9-3 Understand Experimental Probability, 9-4 Use Probability Models
Determine probabilities for chance events that may or may not have equally likely outcomes.	9-2 Understand Theoretical Probability, 9-4 Use Probability Models
Find probabilities of compound events using organized lists and tree diagrams.	9-5 Determine Outcomes of Compound Events, 9-6 Find Probabilities of Compound Events
Find probabilities of compound events using tables and technology.	9-6 Find Probabilities of Compound Events
Design and use a simulation to generate frequencies for compound events.	9-7 Simulate Compound Events
Interpret results of a simulation.	9-7 Simulate Compound Events

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Montgomery County C2.0 Investigations into Mathematics Unit 4 Course Outline Statistics and Probability	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 2: Random Sampling In this topic, students explore the value of randomness and the process of selecting a random sample as a fair way to select a subset of data. They analyze and compare data distributions, making inferences about the populations by using the measures of center and measures of variability. Students generalize about the population from which the sample was selected.</p>	
Reason about what makes a sample representative of a population.	8-1 Populations and Samples , Topic 8 3-Act Mathematical Modeling: Raising Money
Interpret data from random samples to draw inferences and estimates about populations.	8-2 Draw Inferences from Data , Topic 8 3-Act Mathematical Modeling: Raising Money
Analyze, compare, and evaluate data displays.	8-3 Make Comparative Inferences About Populations , 8-4 Make More Comparative Inferences About Populations
Draw informal comparisons using mean and variability.	8-3 Make Comparative Inferences About Populations, 8-4 Make More Comparative Inferences About Populations
Synthesize understanding of statistical questions, data displays and representations, and mathematical inferences of data.	8-4 Make More Comparative Inferences About Populations , Topic 8 3-Act Mathematical Modeling: Raising Money

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Montgomery County C2.0 Investigations into Mathematics Unit 5 Course Outline The Real Number System	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 1: Magnitude and Scientific Notation In this topic, students continue their study of exponents by investigating very large and very small quantities. This requires them to represent, estimate, and calculate numbers expressed in scientific notation. Students apply the properties of integer exponents to transform expressions as they explore equivalency.</p>	
Explore the magnitude of numbers.	2-8 Use Powers of 10 to Estimate Quantities, 2-9 Understand Scientific Notation
Express very large and very small numbers in scientific notation.	2-9 Understand Scientific Notation, 2-10 Operations with Numbers in Scientific Notation
Explore properties of integer exponents through patterns.	2-6 Use Properties of Integer Exponents, 2-7 More Properties of Integer Exponents
Solidify understanding of properties of integer exponents.	2-6 Use Properties of Integer Exponents, 2-7 More Properties of Integer Exponents
Reason about and solve problems using scientific notation.	2-9 Understand Scientific Notation, 2-10 Operations with Numbers in Scientific Notation
<p>Topic 2: Rational and Irrational Numbers In this topic, students differentiate between rational and irrational numbers by exploring repeating decimal patterns. They evaluate square roots and cube roots of perfect squares and perfect cubes. Students use rational approximations of irrational numbers to estimate the value of irrational numbers, compare their size, and locate them approximately on a number line diagram.</p>	
Know that numbers that are not rational are called irrational.	2-1 Rational Numbers as Decimals, 2-2 Understand Irrational Numbers
Use geometric representations to explore squares and cubes.	2-4 Evaluate Square Roots and Cube Roots
Solve equations involving perfect squares and perfect cubes.	2-5 Solve Equations Using Square Roots and Cube Roots
Estimate non-perfect roots between two integers.	2-3 Compare and Order Real Numbers

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Montgomery County C2.0 Investigations into Mathematics Unit 6 Course Outline Functional Relationships and Linear Equations	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 1: Connecting Proportional Relationships to Linear Equations In this topic, students apply their understanding of unit rates and proportional relationships to the graphs of linear equations in two variables. They use similar triangles to reason about how the ratio between the rise and run for any two points on a line is always the same, and use this reasoning to determine the slope of a line. Students use this understanding of slope as a constant to derive the equation of a line.</p>	
Compare proportional relationships by analyzing representations.	7-5 Compare Proportional Relationships , 7-6 Connect Proportional Relationships and Slope
Use similar triangles to explore the slope of a line through the origin.	7-6 Connect Proportional Relationships and Slope , 7-7 Analyze Linear Equations: $y = mx$
Derive equations for lines intercepting the y-axis at the origin by graphing and compare the different proportional relationships.	7-6 Connect Proportional Relationships and Slope, 7-7 Analyze Linear Equations: $y = mx$
Explore linear representations that are not through the origin.	7-8 Understand the y-Intercept of a Line , 7-9 Analyze Linear Equations: $y = mx + b$
Derive the equation for a line intercepting the y-axis at a point other than the origin.	7-8 Understand the y-Intercept of a Line, 7-9 Analyze Linear Equations: $y = mx + b$
Generate multiple representations that reflect a given scenario.	7-7 Analyze Linear Equations: $y = mx$, 7-9 Analyze Linear Equations: $y = mx + b$
<p>Topic 2: Solving Linear Equations In this topic, students apply their equation solving skills to linear equations with rational number coefficients. Students learn that not every linear equation has a solution. In doing so, students reason about how to transform equations into simpler forms until an equivalent equation results in a unique solution, no solution, or infinitely many solutions.</p>	
Explore and evaluate expressions and equations in one variable.	5-1 Write and Evaluate Algebraic Expressions , 6-3 Solve Equations Using the Distributive Property

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Montgomery County C2.0 Investigations into Mathematics Unit 6 Course Outline Functional Relationships and Linear Equations	enVisionmath2.0 Accelerated Grade 7 Lessons
Model equivalence by transforming linear equations.	7-1 Combine Like Terms to Solve Equations, 7-2 Solve Equations with Variables on Both Sides
Solve equations in one variable.	7-2 Solve Equations with Variables on Both Sides, 7-3 Solve Multistep Equations
Classify solutions of linear equations.	7-4 Equations with No Solutions or Infinitely Many Solutions
Understand the solution classifications of linear equations.	7-4 Equations with No Solutions or Infinitely Many Solutions
Identify patterns that lead to solutions of linear equations.	7-4 Equations with No Solutions or Infinitely Many Solutions
Fluently solve equations in one variable.	7-2 Solve Equations with Variables on Both Sides, 7-3 Solve Multistep Equations

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Unit Course Outlines**

Montgomery County C2.0 Investigations into Mathematics Unit 7 Course Outline Transformations and Geometric Measurement	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 1: Congruence Through Rigid Transformations In this topic, students explore congruence through the effects of rigid transformations. They map one figure onto another using a sequence of translations, reflections, and rotations to determine whether figures are congruent. Students apply their understanding to determine which angles of parallel lines cut by a transversal are equal in measure and which are supplementary. They develop informal arguments to show that the sum of the degrees of interior angles of a triangle is 180°. Student understanding of rigid transformations will lay the foundation for future geometric investigations.</p>	
Explore congruence through rigid transformation.	11-5 Understand Congruent Figures
Explore the properties of translations on the coordinate plane.	11-1 Analyze Translations
Explore the properties of reflections on the coordinate plane.	11-2 Analyze Reflections
Explore rotations on the coordinate plane.	11-3 Analyze Rotations
Perform sequences of rigid transformations on the coordinate plane.	11-4 Compose Transformations
Describe a sequence of transformations that maps a pre-image to an image.	11-4 Compose Transformations, 11-5 Understand Congruent Figures
Use informal arguments to establish facts about the angles created when parallel lines are cut by a transversal.	11-8 Angles, Lines, and Transversals
Use informal arguments to establish facts about the angle sum and exterior angle of triangles	11-9 Interior and Exterior Angles of Triangles

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Montgomery County C2.0 Investigations into Mathematics Unit 7 Course Outline Transformations and Geometric Measurement	enVisionmath2.0 Accelerated Grade 7 Lessons
<p>Topic 2: Similarity Through Non-Rigid Transformations In this topic, students distinguish between similar and congruent shapes and identify that similar shapes have congruent angles and proportional side lengths. Students explore similarity by applying their knowledge of scale factor and using the properties of similarity. They describe the effect of dilations on figures and identify dilations as different from the rigid transformations of translations, rotations, and reflections. Students use informal arguments to establish the angle-angle criterion for similarity of triangles.</p>	
Investigate congruent and non-congruent figures.	11-5 Understand Congruent Figures , 11-7 Understand Similar Figures
Demonstrate similarity by performing dilations on a coordinate plane.	11-6 Describe Dilations , 11-7 Understand Similar Figures
Determine the criteria necessary to determine if triangles are similar.	11-7 Understand Similar Figures, 11-10 Angle-Angle Triangle Similarity
Perform and describe a sequence of transformations that shows two figures are similar.	11-6 Describe Dilations, 11-7 Understand Similar Figures

**A Correlation of enVisionmath2.0 Accelerated Grade 7 to the
Common Core State Standards for Mathematics Accelerated Grade 7**

<p align="center">Common Core State Standards for Mathematics Accelerated Grade 7</p>	<p align="center">enVisionmath2.0, ©2017 Accelerated Grade 7 Lessons</p>
<p>Mathematical Practices</p>	
<p>Make sense of problems and persevere in solving them.</p>	<p>Lesson 1-3: Add Integers Lesson 1-4: Subtract Integers Lesson 1-5: Add and Subtract Rational Numbers Lesson 1-6: Multiply Integers Lesson 1-7: Multiply Rational Numbers Lesson 1-8: Divide Integers Lesson 1-9: Divide Rational Numbers Lesson 1-10: Solve Problems with Rational Numbers Lesson 2-5: Solve Equations Using Square Roots and Cube Roots Lesson 2-10: Operations with Numbers in Scientific Notation Lesson 3-2: Determine Unit Rates with Ratios of Fractions Lesson 3-6: Apply Proportional Reasoning to Solve Problems Lesson 4-4: Solve Percent Change and Percent Error Problems Lesson 4-5: Solve Markup and Markdown Problems Lesson 4-6: Solve Simple Interest Problems Lesson 6-2: Solve Two-Step Equations Lesson 6-7: Solve Multi-Step Inequalities Lesson 7-3: Solve Multi-Step Equations Lesson 9-5: Determine Outcomes of Compound Events Lesson 10-8: Solve Problems Involving Surface Area</p>

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<p align="center">Common Core State Standards for Mathematics Accelerated Grade 7</p>	<p align="center">enVisionmath2.0, ©2017 Accelerated Grade 7 Lessons</p>
<p>Reason abstractly and quantitatively.</p>	<p>Lesson 1-1: Relate Integers and Their Opposites Lesson 1-2: Understand Rational Numbers Lesson 1-10: Solve Problems with Rational Numbers Lesson 2-2: Understand Irrational Numbers Lesson 2-9: Understand Scientific Notation Lesson 3-1: Connect Ratios, Rates, and Unit Rates Lesson 3-3: Understand Proportional Relationships: Equivalent Ratios Lesson 3-4: Describe Proportional Relationships: Constant of Proportionality Lesson 4-2: Connect Percent and Proportion Lesson 5-2: Generate Equivalent Expressions Lesson 7-5: Compare Proportional Relationships Lesson 7-6: Connect Proportional Relationships and Slope Lesson 8-2: Draw Inferences from Data Lesson 8-3: Make Comparative Inferences About Populations Lesson 8-4: Make More Comparative Inferences About Populations Lesson 10-1: Solve Problems Involving Scale Drawings Lesson 11-5: Understand Congruent Figures</p>

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<p align="center">Common Core State Standards for Mathematics Accelerated Grade 7</p>	<p align="center">enVisionmath2.0, ©2017 Accelerated Grade 7 Lessons</p>
<p>Construct viable arguments and critique the reasoning of others.</p>	<p>Lesson 2-2: Understand Irrational Numbers Lesson 2-9: Understand Scientific Notation Lesson 3-1: Connect Ratios, Rates, and Unit Rates Lesson 3-3: Understand Proportional Relationships: Equivalent Ratios Lesson 3-4: Describe Proportional Relationships: Constant of Proportionality Lesson 4-2: Connect Percent and Proportion Lesson 5-2: Generate Equivalent Expressions Lesson 7-5: Compare Proportional Relationships Lesson 7-6: Connect Proportional Relationships and Slope Lesson 8-2: Draw Inferences from Data Lesson 8-3: Make Comparative Inferences About Populations Lesson 8-4: Make More Comparative Inferences About Populations Lesson 10-1: Solve Problems Involving Scale Drawings Lesson 11-5: Understand Congruent Figures</p>

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<p align="center">Common Core State Standards for Mathematics Accelerated Grade 7</p>	<p align="center">enVisionmath2.0, ©2017 Accelerated Grade 7 Lessons</p>
<p>Model with mathematics.</p>	<p>Lesson 2-4: Evaluate Square Roots and Cube Roots Lesson 2-5: Solve Equations Using Square Roots and Cube Roots Lesson 3-5: Graph Proportional Relationships Lesson 4-3: Represent and Use the Percent Equation Lesson 4-6: Solve Simple Interest Problems Lesson 5-1: Write and Evaluate Algebraic Expressions Lesson 5-2: Generate Equivalent Expressions Lesson 6-1: Write Two-Step Equations Lesson 6-3: Solve Equations Using the Distributive Property Lesson 6-6: Solve Two-Step Inequalities Lesson 7-3: Solve Multi-Step Equations Lesson 8-2: Draw Inferences from Data Lesson 10-1: Solve Problems Involving Scale Drawings Lesson 10-2: Draw Geometric Figures Lesson 10-3: Draw Triangles with Given Conditions Lesson 10-7: Describe Cross Sections Lesson 11-4: Compose Transformations Lesson 11-8: Angles, Lines, and Transversals Lesson 11-10: Angle-Angle Triangle Similarity</p>

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Common Core State Standards for Mathematics Accelerated Grade 7**

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<p>Use appropriate tools strategically.</p>	<p>Lesson 3-1: Connect Ratios, Rates, and Unit Rates Lesson 3-2: Determine Unit Rates with Ratios of Fractions Lesson 3-3: Understand Proportional Relationships: Equivalent Ratios Lesson 3-4: Describe Proportional Relationships: Constant of Proportionality Lesson 3-5: Graph Proportional Relationships Lesson 3-6: Apply Proportional Reasoning to Solve Problems Lesson 8-2: Draw Inferences from Data Lesson 10-1: Solve Problems Involving Scale Drawings Lesson 10-2: Draw Geometric Figures Lesson 10-3: Draw Triangles with Given Conditions Lesson 10-7: Describe Cross Sections Lesson 11-4: Compose Transformations Lesson 11-8: Angles, Lines, and Transversals Lesson 11-10: Angle-Angle Triangle Similarity Lesson 12-1: Find Surface Area of Three-Dimensional Figures Lesson 12-2: Find Volume of Cylinders Lesson 12-3: Find Volume of Cones Lesson 12-4: Find Volume of Spheres</p>

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<p>Attend to precision.</p>	<p>Lesson 1-3: Add Integers Lesson 1-4: Subtract Integers Lesson 1-5: Add and Subtract Rational Numbers, Lesson 1-6: Multiply Integers Lesson 1-7: Multiply Rational Numbers Lesson 1-8: Divide Integers Lesson 1-9: Divide Rational Numbers Lesson 1-10: Solve Problems with Rational Numbers Lesson 2-5: Solve Equations Using Square Roots and Cube Roots Lesson 2-10: Operations with Numbers in Scientific Notation Lesson 3-2: Determine Unit Rates with Ratios of Fractions Lesson 3-6: Apply Proportional Reasoning to Solve Problems Lesson 4-4: Solve Percent Change and Percent Error Problems Lesson 4-5: Solve Markup and Markdown Problems Lesson 4-6: Solve Simple Interest Problems Lesson 6-2: Solve Two-Step Equations Lesson 6-7: Solve Multi-Step Inequalities Lesson 7-3: Solve Multi-Step Equations Lesson 9-5: Determine Outcomes of Compound Events Lesson 10-8: Solve Problems Involving Surface Area</p>

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<p>Look for and make use of structure.</p>	<p>Lesson 1-3: Add Integers Lesson 1-4: Subtract Integers Lesson 1-5: Add and Subtract Rational Numbers Lesson 1-6: Multiply Integers Lesson 1-7: Multiply Rational Numbers Lesson 1-8: Divide Integers Lesson 1-9: Divide Rational Numbers Lesson 1-10: Solve Problems with Rational Numbers Lesson 2-5: Solve Equations Using Square Roots and Cube Roots Lesson 2-10: Operations with Numbers in Scientific Notation Lesson 4-6: Solve Simple Interest Problems Lesson 6-2: Solve Two-Step Equations Lesson 6-7: Solve Multi-Step Inequalities Lesson 7-3: Solve Multi-Step Equations Lesson 9-5: Determine Outcomes of Compound Events Lesson 12-1: Find Surface Area of Three-Dimensional Figures Lesson 12-2: Find Volume of Cylinders Lesson 12-3: Find Volume of Cones Lesson 12-4: Find Volume of Spheres</p>
<p>Look for and express regularity in repeated reasoning.</p>	<p>Lesson 1-3: Add Integers Lesson 1-4: Subtract Integers Lesson 1-5: Add and Subtract Rational Numbers Lesson 1-6: Multiply Integers Lesson 1-7: Multiply Rational Numbers Lesson 1-8: Divide Integers Lesson 1-9: Divide Rational Numbers Lesson 1-10: Solve Problems with Rational Numbers Lesson 9-4: Use Probability Models Lesson 9-5: Determine Outcomes of Compound Events Lesson 9-6: Find Probabilities of Compound Events Lesson 9-7: Simulate Compound Events</p>

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Unit 1: Rational Numbers and Exponents	
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	
7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	Lesson 1-1: Relate Integers and Their Opposites, Lesson 1-3: Add Integers, Lesson 1-4: Subtract Integers, Lesson 1-5: Add and Subtract Rational Numbers
a. Describe situations in which opposite quantities combine to make 0. <i>For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.</i>	Lesson 1-1: Relate Integers and Their Opposites
b. Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	Lesson 1-3: Add Integers, Lesson 1-5: Add and Subtract Rational Numbers
c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	Lesson 1-4: Subtract Integers, Lesson 1-5: Add and Subtract Rational Numbers
d. Apply properties of operations as strategies to add and subtract rational numbers.	Lesson 1-3: Add Integers, Lesson 1-4: Subtract Integers, Lesson 1-5: Add and Subtract Rational Numbers
7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	Lesson 1-2: Understand Rational Numbers, Lesson 1-6: Multiply Integers, Lesson 1-7: Multiply Rational Numbers, Lesson 1-8: Divide Integers, Lesson 1-9: Divide Rational Numbers

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<p>a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</p>	<p>Lesson 1-6: Multiply Integers, Lesson 1-7: Multiply Rational Numbers</p>
<p>b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.</p>	<p>Lesson 1-8: Divide Integers, Lesson 1-9: Divide Rational Numbers</p>
<p>c. Apply properties of operations as strategies to multiply and divide rational numbers.</p>	<p>Lesson 1-6: Multiply Integers, Lesson 1-8: Divide Integers, Lesson 1-9: Divide Rational Numbers</p>
<p>d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p>	<p>Lesson 1-2: Understand Rational Numbers, Lesson 1-7: Multiply Rational Numbers</p>
<p>7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p>	<p>Lesson 1-10: Solve Problems with Rational Numbers, Lesson 10-8: Solve Problems Involving Surface Area, Lesson 10-9: Solve Problems Involving Volume</p>
<p>Know that there are numbers that are not rational, and approximate them by rational numbers.</p>	
<p>8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p>	<p>Lesson 2-1: Rational Numbers as Decimals, Lesson 2-2: Understand Irrational Numbers</p>

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<p>8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$). <i>For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i></p>	<p>Lesson 2-3: Compare and Order Real Numbers</p>
<p>Work with radicals and integer exponents.</p>	
<p>8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. <i>For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.</i></p>	<p>Lesson 2-6: Use Properties of Integer Exponents, Lesson 2-7: More Properties of Integer Exponents</p>
<p>8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>	<p>Lesson 2-4: Evaluate Square Roots and Cube Roots, Lesson 2-5: Solve Equations Using Square Roots and Cube Roots</p>
<p>8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. <i>For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.</i></p>	<p>Lesson 1-10: Solve Problems with Rational Numbers, Lesson 2-8: Use Powers of 10 to Estimate Quantities,</p>
<p>8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.</p>	<p>Lesson 2-9: Understand Scientific Notation, Lesson 2-10: Operations with Numbers in Scientific Notation</p>

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<p>Unit 2: Proportionality and Linear Relationships</p>	
<p>Analyze proportional relationships and use them to solve real-world and mathematical problems.</p>	
<p>7.RP.1 <i>Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2} / \frac{1}{4}$ miles per hour, equivalently 2 miles per hour.</i></p>	<p>Lesson 3-1: Connect Ratios, Rates, and Unit Rates, Lesson 3-2: Determine Unit Rates with Ratios of Fractions</p>
<p>7.RP.2 <i>Recognize and represent proportional relationships between quantities.</i></p>	<p>Lesson 3-6: Apply Proportional Reasoning to Solve Problems</p>
<p>a. <i>Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</i></p>	<p>Lesson 3-3: Understand Proportional Relationships: Equivalent Ratios, Lesson 3-5: Graph Proportional Relationships</p>
<p>b. <i>Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</i></p>	<p>Lesson 3-4: Describe Proportional Relationships: Constant of Proportionality, Lesson 3-5: Graph Proportional Relationships</p>
<p>c. <i>Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</i></p>	<p>Lesson 3-4: Describe Proportional Relationships: Constant of Proportionality, Lesson 4-2: Connect Percent and Proportion, Lesson 4-3: Represent and Use the Percent Equation, Lesson 9-2: Understand Theoretical Probability</p>

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<p>d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.</p>	<p>Lesson 3-5: Graph Proportional Relationships</p>
<p>7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. <i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</i></p>	<p>Lesson 3-1: Connect Ratios, Rates, and Unit Rates, Lesson 3-2: Determine Unit Rates with Ratios of Fractions, Lesson 3-6: Apply Proportional Reasoning to Solve Problems, Lesson 4-1: Analyze Percents of Numbers, Lesson 4-2: Connect Percent and Proportion, Lesson 4-3: Represent and Use the Percent Equation, Lesson 4-4: Solve Percent Change and Percent Error Problems, Lesson 4-5: Solve Markup and Markdown Problems, Lesson 4-6: Solve Simple Interest Problems</p>
<p>Use properties of operations to generate equivalent expressions.</p>	
<p>7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p>	<p>Lesson 5-2: Generate Equivalent Expressions, Lesson 5-3: Simplify Expressions, Lesson 5-4: Expand Expressions, Lesson 5-5: Factor Expressions, Lesson 5-6: Add Expressions, Lesson 5-7: Subtract Expressions</p>
<p>7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. <i>For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.”</i></p>	<p>Lesson 5-4: Expand Expressions, Lesson 5-5: Factor Expressions, Lesson 5-6: Add Expressions, Lesson 5-7: Subtract Expressions, Lesson 5-8: Analyze Equivalent Expressions</p>

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<p>Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p>	
<p>7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i></p>	<p>Lesson 5-1: Write and Evaluate Algebraic Expressions, Lesson 6-2: Solve Two-Step Equations, Lesson 6-3: Solve Equations Using the Distributive Property, Lesson 9-1: Understand Likelihood and Probability, Lesson 9-4: Use Probability Models, Lesson 10-6: Solve Problems Involving Area of a Circle, Lesson 10-8: Solve Problems Involving Surface Area, Lesson 10-9: Solve Problems Involving Volume</p>
<p>7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p>	<p>Lesson 5-1: Write and Evaluate Algebraic Expressions, Lesson 6-1: Write Two-Step Equations</p>
<p>a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i></p>	<p>Lesson 6-2: Solve Two-Step Equations, Lesson 6-3: Solve Equations Using the Distributive Property, Lesson 10-5: Solve Problems Involving Circumference of a Circle, Lesson 10-6: Solve Problems Involving Area of a Circle, Lesson 10-8: Solve Problems Involving Surface Area, Lesson 10-9: Solve Problems Involving Volume</p>

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<p>b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i></p>	<p>Lesson 6-4: Solve Inequalities Using Addition or Subtraction, Lesson 6-5: Solve Inequalities Using Multiplication or Division, Lesson 6-6: Solve Two-Step Inequalities, Lesson 6-7: Solve Multi-Step Inequalities</p>
<p align="center">Understand the connections between proportional relationships, lines, and linear equations.</p>	
<p>8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. <i>For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</i></p>	<p>Lesson 7-5: Compare Proportional Relationships</p>
<p>8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p>	<p>Lesson 7-6: Connect Proportional Relationships and Slope, Lesson 7-7: Analyze Linear Equations: $y = mx$, Lesson 7-8: Understand the y-Intercept of a Line, Lesson 7-9: Analyze Linear Equations: $y = mx + b$</p>
<p align="center">Analyze and solve linear equations and pairs of simultaneous linear equations.</p>	
<p>8.EE.7 Solve linear equations in one variable.</p>	<p>Lesson 7-1: Collect Like Terms to Solve Equations, Lesson 7-2: Solve Equations with Variables on Both Sides, Lesson 7-3: Solve Multi-Step Equations, Lesson 7-4: Equations with No Solutions or Infinitely Many Solutions</p>
<p>a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p>	<p>Lesson 7-4: Equations with No Solutions or Infinitely Many Solutions</p>

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<p>b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p>	<p>Lesson 7-1: Collect Like Terms to Solve Equations, Lesson 7-2: Solve Equations with Variables on Both Sides, Lesson 7-3: Solve Multi-Step Equations</p>
<p>Unit 3: Introduction to Sampling and Inference</p>	
<p>Use random sampling to draw inferences about a population.</p>	
<p>7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.</p>	<p>Lesson 8-1: Populations and Samples, Lesson 8-2: Draw Inferences from Data</p>
<p>7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. <i>For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.</i></p>	<p>Lesson 8-2: Draw Inferences from Data</p>
<p>Draw informal comparative inferences about two populations.</p>	
<p>7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. <i>For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.</i></p>	<p>Lesson 8-3: Make Comparative Inferences About Populations, Lesson 8-4: Make More Comparative Inferences About Populations</p>

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<p>7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. <i>For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.</i></p>	<p>Lesson 8-3: Make Comparative Inferences About Populations, Lesson 8-4: Make More Comparative Inferences About Populations</p>
<p align="center">Investigate chance processes and develop, use, and evaluate probability models.</p>	
<p>7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p>	<p>Lesson 9-1: Understand Likelihood and Probability</p>
<p>7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. <i>For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.</i></p>	<p>Lesson 9-2: Understand Theoretical Probability, Lesson 9-3: Understand Experimental Probability</p>
<p>7.SP.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p>	<p>Lesson 9-3: Understand Experimental Probability</p>
<p>a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. <i>For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i></p>	<p>Lesson 9-4: Use Probability Models</p>

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<p>b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. <i>For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?</i></p>	<p>Lesson 9-4: Use Probability Models</p>
<p>7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p>	<p>Lesson 9-5: Determine Outcomes of Compound Events, Lesson 9-6: Find Probabilities of Compound Events, Lesson 9-7: Simulate Compound Events</p>
<p>a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p>	<p>Lesson 9-6: Find Probabilities of Compound Events</p>
<p>b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.</p>	<p>Lesson 9-5: Determine Outcomes of Compound Events</p>
<p>c. Design and use a simulation to generate frequencies for compound events. <i>For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</i></p>	<p>Lesson 9-7: Simulate Compound Events</p>

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Unit 4: Creating, Comparing, and Analyzing Geometric Figures	
Draw, construct, and describe geometrical figures and describe the relationships between them.	
7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Lesson 10-1: Solve Problems Involving Scale Drawings
7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Lesson 10-2: Draw Geometric Figures, Lesson 10-3: Draw Triangles with Given Conditions
7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	Lesson 10-7: Describe Cross Sections
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	
7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Lesson 10-5: Solve Problems Involving Circumference of a Circle, Lesson 10-6: Solve Problems Involving Area of a Circle
7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	Lesson 10-4: Solve Problems using Angle Relationships
7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	Lesson 10-8: Solve Problems Involving Surface Area, Lesson 10-9: Solve Problems Involving Volume

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Understand congruence and similarity using physical models, transparencies, or geometry software.	
8.G.1 Verify experimentally the properties of rotations, reflections, and translations:	Lesson 11-1: Analyze Translations, Lesson 11-2: Analyze Reflections, Lesson 11-3: Analyze Rotations
a. Lines are taken to lines, and line segments to line segments of the same length.	Lesson 11-1: Analyze Translations, Lesson 11-2: Analyze Reflections, Lesson 11-3: Analyze Rotations, Lesson 11-4: Compose Transformations
b. Angles are taken to angles of the same measure.	Lesson 11-1: Analyze Translations, Lesson 11-2: Analyze Reflections, Lesson 11-3: Analyze Rotations, Lesson 11-4: Compose Transformations
c. Parallel lines are taken to parallel lines.	Lesson 11-1: Analyze Translations, Lesson 11-2: Analyze Reflections, Lesson 11-3: Analyze Rotations, Lesson 11-4: Compose Transformations
8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Lesson 11-5: Understand Congruent Figures
8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Lesson 11-1: Analyze Translations, Lesson 11-2: Analyze Reflections, Lesson 11-3: Analyze Rotations, Lesson 11-4: Compose Transformations, Lesson 11-5: Understand Congruent Figures, Lesson 11-6: Describe Dilations, Lesson 11-7: Understand Similar Figures
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Lesson 11-6: Describe Dilations, Lesson 11-7: Understand Similar Figures

**A Correlation of enVisionmath2.0 Accelerated Grade 7 to the
Common Core State Standards for Mathematics Accelerated Grade 7**

<p align="center">Common Core State Standards for Mathematics Accelerated Grade 7</p>	<p align="center">enVisionmath2.0, ©2017 Accelerated Grade 7 Lessons</p>
<p>8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i></p>	<p>Lesson 11-8: Angles, Lines, and Transversals, Lesson 11-9: Interior and Exterior Angles of Triangles, Lesson 11-10: Angle-Angle Triangle Similarity</p>
<p>Solve real-world and mathematical problem involving volume of cylinders, cones, and spheres.</p>	
<p>8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</p>	<p>Lesson 12-1: Find Surface Area of Three-Dimensional Figures, Lesson 12-2: Find Volume of Cylinders, Lesson 12-3: Find Volume of Cones, Lesson 12-4: Find Volume of Spheres</p>