<u>Big Idea(s)</u>	<u>Concept(s)</u>	<u>Competencies</u>	Essential Questions
Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization. Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions. Patterns exhibit relationships that can be extended, described, and generalized.	 Students will know: Volume of 3-dimensional figures Algebraic Solution Sets Combining Like Terms Inequalities with Variables 	 Students will be able to: Calculate the volume of 3-dimensional shapes using formulas Evaluate algebraic equations to identify solution sets Combine like terms in algebraic expressions Evaluate inequalities with and without variables 	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving? How can recognizing repetition or regularity assist in solving problems more efficiently? How can recognizing repetition or regularity assist in solving problems more efficiently?
Topic	Approx. # of weeks	PA Academic Standards	Assessment Anchors & Eligible Content
Nets of 3D Shapes Surface Area Volume	2 weeks	CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.	M06.C-G.1.1.3 Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided. M06.C-G.1.1.5 Represent three-dimensional figures using nets made of rectangles and triangles. M06.C-G.1.1.6 Determine the surface area of triangular and rectangular prisms (including cubes). Formulas will be provided.

Algebra: Equivalent Expressions and Solving Equations Solution Sets2 weeksCC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.M06.B-E.1.1.5 Apply the properties of operations to generate equivalent expressions. Exam 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example Apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y). Exam 3: Apply properties of operations to y + to produce the equivalent expression	<u>Topic</u>	Approx. # of weeks	PA Academic Standards	Assessment Anchors & Eligible Content
CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables. M06.B-E.2.1.1 Workersensensensensensensensensensensensensens	Algebra: Equivalent Expressions and Solving Equations Solution Sets	2 weeks	CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions. CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply to real-world and mathematical problems. CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.	M06.B-E.1.1.5 Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression 24x + 18y to produce the equivalent expression $6(4x + 3y)$. Example 3: Apply properties of operations to $y + y + y$ to produce the equivalent expression 3y. M06.B-E.2.1.1 Use substitution to determine whether a given number in a specified set makes an equation or inequality true. M06.B-E.2.1.2 Write algebraic expressions to represent real-world or mathematical problems. M06.B-E.2.1.3 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all non-negative rational numbers. M06.B-E.3.1.1 Write an equation to express the relationship between the dependent and

			problem involving motion at a constant speed of 65 units, write the equation d = 65t to represent the relationship between distance and time. M06.B-E.3.1.2 Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation.
<u>Topic</u>	Approx. # of weeks	PA Academic Standards	Assessment Anchors & Eligible Content
Simple Expressions Combining Like Terms	2 weeks	CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.	M06.B-E.1.1.1 Write and evaluate numerical expressions involving whole-number exponents. M06.B-E.1.1.2 Write algebraic expressions from verbal descriptions. Example: Express the description "five less than twice a number" as $2y - 5$. M06.B-E.1.1.3 Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression 2(8 + 7) as a product of two factors. M06.B-E.1.1.4 Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression b2 – 5 when b = 4.

			M06.B-E.1.1.5 Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$. Example 3: Apply properties of operations to $y + y + y$ to produce the equivalent expression 3y.
<u>Unit/Chapter/Selection of</u> <u>Study</u>	<u>Approx. # of weeks</u>	PA Academic Standards	Assessment Anchors & Eligible Content
Inequalities with Variables	3 weeks	CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.	M06.A-N.3.1.3 Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.
			M06.A-N.3.2.1 Write, interpret, and explain statements of order for rational numbers in real-world contexts. Ex: Write -3 degrees C > -7 degrees C to express the fact that -3 degrees C is warmer than -7 degrees C.
			M06.A-N.3.2.2 Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a

	CC.2.2.6.B.2 Understand the process of solving one-variable equation or inequali and apply it to real-world and mathematical problems.	 positive or negative quantity in a real-world situation. M06.A-N.3.2.3 Solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. M06.B-E.2.1.1 Use substitution to determine whether a given number in a specified set makes an equation or inequality true. M06.B-E.2.1.4 Write an inequality of the form x>c or x<c a="" and="" condition="" constraint="" in="" inequalities="" li="" lines.<="" mathematical="" number="" of="" on="" or="" problem="" real-world="" represent="" solutions="" such="" to=""> </c>
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