

PA Core Mathematics Standards – Cluster Heading Matrix

Trifold – Grades 6-7-8

Domain	Grade 6	Grade 7	Grade 8
Counting and Cardinality			
Operations and Algebraic Thinking			
Number and Operations in Base Ten			
Number and Operations—Fractions			
Measurement and Data			
Ratios and Proportional Relationships	<ul style="list-style-type: none"> Understand ratio concepts and use ratio reasoning to solve problems. 	<ul style="list-style-type: none"> Analyze proportional relationships and use them to solve real-world and mathematical problems. 	
The Number System	<ul style="list-style-type: none"> Apply and extend previous understandings of multiplication and division to divide fractions by fractions. Apply and extend previous understandings of numbers to the system of rational numbers. 	<ul style="list-style-type: none"> Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. 	<ul style="list-style-type: none"> Know that there are numbers that are not rational, and approximate them by rational numbers.
Expressions and Equations	<ul style="list-style-type: none"> Apply and extend previous understandings of arithmetic to algebraic expressions. Reason about and solve one-variable equations and inequalities. Represent and analyze quantitative relationships between dependent and independent variables. 	<ul style="list-style-type: none"> Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. 	<ul style="list-style-type: none"> Work with radicals and integer exponents. Understand the connections between proportional relationships, lines, and linear equations. Analyze and solve linear equations and pairs of simultaneous linear equations.
Functions			<ul style="list-style-type: none"> Define, evaluate, and compare functions. Use functions to model relationships between quantities.
Geometry	<ul style="list-style-type: none"> Solve real-world and mathematical problems involving area, surface area, and volume. 	<ul style="list-style-type: none"> Draw, construct and describe geometrical figures and describe the relationships between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. 	<ul style="list-style-type: none"> Understand congruence and similarity using physical models, transparencies, or geometry software. Understand and apply the Pythagorean Theorem. Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
Statistics and Probability	<ul style="list-style-type: none"> Develop understanding of statistical variability. Summarize and describe distribution. 	<ul style="list-style-type: none"> Use random sampling to draw inferences about a population Draw informal comparative inferences about two populations. Investigate chance processes and develop, use, and evaluate probability models. 	<ul style="list-style-type: none"> Investigate patterns of association in bivariate data.