

Measures of Academic Progress (MAP) Common Core Aligned Version 4

Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
Operations and Algebraic Thinking	Operations and Algebraic Thinking	Algebraic Thinking
<p>Apply and extend previous understandings of arithmetic to algebraic expressions and equations: Solve one-variable equations and inequalities (including linear, quadratic, rational, and radical); use properties of operations to generate equivalent expressions; interpret the structure of expressions; solve real-life and mathematical problems using numerical and algebraic expressions and equations; work with radicals and integer exponents; use scientific notation; solve systems of equations; perform arithmetic operations on polynomials; represent and solve equations and inequalities graphically; understand the connections between proportional relationships, lines, and linear equations.</p>	Expressions and Equations	
<p>Use functions to model relationships between quantities: Define, evaluate, and compare functions; understand the concept of a function and use function notation; interpret functions that arise in applications in terms of the context; analyze functions using different representations; build new functions from existing functions; construct and compare linear, quadratic, and exponential models and solve problems; extend the domain of trigonometric functions using the unit circle; model periodic phenomena with trigonometric functions; prove and apply trigonometric identities.</p>	Use Functions to Model Relationships	
The Real and Complex Number Systems	The Real and Complex Number Systems	Real & Complex Number Systems

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<p>Analyze proportional relationships and use them to solve real-world and mathematical problems: Understand ratio concepts and use ratio reasoning to solve problems; use ratio and rate reasoning to solve real-world and mathematical problems; recognize and represent proportional relationships between quantities; use proportional relationships to solve multistep ratio and percent problems.</p>	<p>Ratios and Proportional Relationships</p>	
<p>Apply and extend previous understandings of operations: Divide fractions by fractions; compute fluently with multi-digit numbers and find common factors and multiples; add, subtract, multiply, and divide rational numbers; perform arithmetic operations with complex numbers; solve real-world and mathematical problems involving the four operations with rational numbers; reason quantitatively and use units to solve problems.</p>	<p>Perform Operations</p>	
<p>Apply and extend previous understandings of numbers to the system of rational numbers: Know that there are numbers that are not rational, and approximate them by rational numbers; extend the properties of exponents to rational exponents; use properties of rational and irrational numbers; solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.</p>	<p>Extend and Use Properties</p>	
<p>Geometry</p>	<p>Geometry</p>	<p>Geometry</p>

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<p>Solve real-world and mathematical problems involving area, circumference, surface area, volume, and angle measure; Visualize relationships between two-dimensional and three-dimensional objects understand and apply theorems about circles; find arc lengths and areas of sectors of circles; translate between the geometric description and the equation for a conic section; use coordinates to prove simple geometric theorems algebraically; solve problems involving scale drawings of geometric figures.</p>	<p>Geometric Measurement and Relationships</p>	
<p>Understand congruence and similarity using physical models; Understand and apply the Pythagorean Theorem; experiment with transformations in the plane; understand congruence in terms of rigid motions; prove geometric theorems; understand similarity in terms of similarity transformations; use facts about the angle sum and exterior angle of triangles and about the angles created when parallel lines are cut by a transversal; prove theorems involving similarity; define trigonometric ratios and solve problems involving right triangles.</p>	<p>Congruence, Similarity, Right Triangles, & Trig</p>	
<p>Statistics and Probability</p>	<p>Statistics and Probability</p>	<p>Statistics and Probability</p>
<p>Summarize, represent, and interpret data on a single count or measurement variable and on two categorical and quantitative variables: Develop understanding of statistical variability; summarize and describe distributions; use measures of center and measures of variability; draw informal comparative inferences about two populations; investigate patterns of association in bivariate data; interpret linear models; represent data with plots on the real number line (dot plots, histograms, and box plots).</p>	<p>Interpreting Categorical and Quantitative Data</p>	

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<p>Use random sampling and the rules of probability: Use random sampling to draw inferences about a population; investigate chance processes and develop, use, and evaluate probability models; understand and evaluate random processes underlying statistical experiments; make inferences and justify conclusions from sample surveys, experiments, and observational studies; understand independence and conditional probability and use them to interpret data; use the rules of probability to compute probabilities of compound events in a uniform probability model.</p>	<p>Using Sampling and Probability to Make Decisions</p>	