



 Algebra 1 (Prior to 2010 CAS Adoption)


 Geometry (Prior to 2010 CAS Adoption)

 Algebra 2 (Prior to 2010 CAS Adoption)

Domain	6 <sup>th</sup> Grade	7 <sup>th</sup> Grade	8 <sup>th</sup> Grade	Algebra 1	Geometry	Algebra 2	Conceptual Category
Ratios & Proportional Reasoning	<ul style="list-style-type: none"> <li>Understand ratio concepts and use ratio reasoning to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>Analyze proportional relationships and use them to solve real-world and mathematical problems.</li> </ul>	<ul style="list-style-type: none"> <li>Know that there are numbers that are not rational, and approximate them by rational numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Extend the properties of exponents to rational exponents.</li> <li>Use properties of rational and irrational numbers.</li> <li>Reason quantitatively and use units to solve problems.</li> </ul>		<ul style="list-style-type: none"> <li>Extend the properties of exponents to rational exponents.</li> <li>Reason quantitatively and use units to solve problems.</li> <li>Perform arithmetic operations with complex numbers.</li> <li>Use complex numbers in polynomial identities and equations.</li> </ul>	Number & Quantity
The Number System	<ul style="list-style-type: none"> <li>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</li> <li>Compute fluently with multi-digit numbers and find common factors and multiples.</li> <li>Apply and extend previous understandings of numbers to the system of rational numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Work with radicals and integer exponents.</li> <li>Understand the connections between proportional relationships, lines and linear equations.</li> <li>Analyze and solve linear equations and pairs of simultaneous linear equations.</li> </ul>				
Expressions & Equations	<ul style="list-style-type: none"> <li>Apply and extend previous understandings of arithmetic to algebraic expressions.</li> <li>Reason about and solve one-variable equations and inequalities.</li> <li>Represent and analyze quantitative relationships between dependent and independent variables.</li> </ul>	<ul style="list-style-type: none"> <li>Use properties of operations to generate equivalent expressions.</li> <li>Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</li> </ul>	<ul style="list-style-type: none"> <li>Define, evaluate and compare functions.</li> <li>Use functions to model relationships between quantities.</li> </ul>	<ul style="list-style-type: none"> <li>Interpret the structure of expressions.</li> <li>Write expressions in equivalent forms to solve problems.</li> <li>Perform arithmetic operations on polynomials.</li> <li>Understand the relationship between zeros and factors of polynomials.</li> <li>Create equations that describe numbers or relationships.</li> <li>Understand solving equations as a process of reasoning and explain the reasoning.</li> <li>Solve equations and inequalities in one variable.</li> <li>Solve systems of equations.</li> <li>Represent and solve equations and inequalities graphically.</li> </ul>		<ul style="list-style-type: none"> <li>Interpret the structure of expressions.</li> <li>Write expressions in equivalent forms to solve problems.</li> <li>Perform arithmetic operations on polynomials.</li> <li>Understand the relationship between zeros and factors of polynomials.</li> <li>Use polynomial identities to solve problems.</li> <li>Rewrite rational expressions.</li> <li>Create equations that describe numbers or relationships.</li> <li>Understand solving equations as a process of reasoning and explain the reasoning.</li> <li>Solve equations and inequalities in one variable.</li> <li>Solve systems of equations.</li> <li>Represent and solve equations and inequalities.</li> </ul>	Algebra

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				<ul style="list-style-type: none"> <li>Understand the concept of a function and use function notation.</li> <li>Interpret functions that arise in applications in terms of the context.</li> <li>Analyze functions using different representations.</li> <li>Build a function that models a relationships between two quantities.</li> <li>Build new functions from existing functions.</li> <li>Construct and compare linear, quadratic, and exponential models and solve problems.</li> <li>Interpret expressions for functions in terms of the situation they model.</li> </ul>		<ul style="list-style-type: none"> <li>Understand the concept of a functions and use function notation.</li> <li>Interpret functions that arise in applications in terms of the context.</li> <li>Analyze functions using different representations.</li> <li>Build a function that models a relationship between two quantities.</li> <li>Build new functions from existing functions.</li> <li>Construct and compare linear, quadratic, and exponential models and solve problems.</li> <li>Interpret expressions for functions in terms of the situation they model.</li> <li>Extend the domain of trigonometric functions using the unit circle.</li> <li>Model periodic phenomena with trigonometric functions.</li> <li>Prove and apply trigonometric identities.</li> </ul>	Functions

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Geometry	<ul style="list-style-type: none"> <li>Solve real-world and mathematical problems involving area, surface area and volume.</li> </ul>	<ul style="list-style-type: none"> <li>Draw, construct and describe geometrical figures and describe the relationships between them.</li> <li>Solve real-life and mathematical problems involving angle measure, area, surface area and volume.</li> </ul>	<ul style="list-style-type: none"> <li>Understand congruence and similarity using physical models, transparencies or geometry software.</li> <li>Understand and apply the Pythagorean Theorem.</li> <li>Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.</li> </ul>		<ul style="list-style-type: none"> <li>Experiment with transformation in the plane.</li> <li>Understand congruence in terms of rigid motions.</li> <li>Prove geometric theorems.</li> <li>Make geometric constructions.</li> <li>Understand similarity in terms of similarity transformations.</li> <li>Prove theorems using similarity.</li> <li>Define trigonometric ratios and solve problems involving right triangles.</li> <li>Apply trigonometry to general triangles.</li> <li>Understand and apply theorems about circles.</li> <li>Find arc lengths and areas of sectors of circles.</li> <li>Translate between the geometric description and the equation of a conic section.</li> <li>Use coordinates to prove simple geometric theorems algebraically.</li> <li>Explain volume formulas and use them to solve problems.</li> <li>Visualize relationships between two-dimensional and three-dimensional objects.</li> <li>Apply geometric concepts in modeling situations.</li> </ul>	<ul style="list-style-type: none"> <li>Translate between the geometric description and the equation for a conic section.</li> </ul>	Geometry

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Statistics & Probability	<ul style="list-style-type: none"> <li>Develop understanding of statistical variability.</li> <li>Summarize and describe distributions.</li> </ul>	<ul style="list-style-type: none"> <li>Use random sampling to draw inferences about a population.</li> <li>Draw informal comparative inferences about two populations.</li> <li>Investigate chance processes and develop, use, and evaluate probability models.</li> </ul>	<ul style="list-style-type: none"> <li>Investigate patterns of association in bivariate data.</li> </ul>	<ul style="list-style-type: none"> <li>Summarize, represent, and interpret data on a single count or measurement variable.</li> <li>Summarize, represent, and interpret data on two categorical and quantitative variables.</li> <li>Interpret linear models.</li> </ul>	<ul style="list-style-type: none"> <li>Understand independence and conditional probability and use them to interpret data.</li> <li>Use the rules of probability to compute probabilities of compound events in a uniform probability model.</li> <li>Use probability to evaluate outcomes of decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Summarize, represent, and interpret data on a single count or measurement variable.</li> <li>Summarize, represent and interpret data on two categorical and quantitative variables.</li> <li>Understand and evaluate random processes underlying statistical experiments.</li> <li>Make inferences and justify conclusions from sample surveys, experiments and observational studies.</li> <li>Understand independence and conditional probability and use them to interpret data.</li> <li>Use the rules of probability to compute probabilities of compound events in a uniform probability model.</li> <li>Use probability to evaluate outcomes of decisions.</li> </ul>	Statistics & Probability