

Grade 8 Mathematics Course Comparison

	Mathematics 8	Algebra I	Algebra 1 Honors	Geometry Honors
Content	<p>The eighth-grade standards provide students additional instruction and time to acquire the concepts and skills necessary for success in Algebra I. New topics are introduced throughout the following six strands:</p> <ul style="list-style-type: none"> • Number and Number Sense • Computation and Estimation • Geometry • Measurement • Probability and Statistics • Patterns, Functions, and Algebra 	<p>This course continues to emphasize the foundations of algebra. Areas of study include these four strands:</p> <ul style="list-style-type: none"> • Expressions and Operations • Equations and Inequalities • Functions • Statistics 	<p>This course contains the entire curriculum for Algebra I as well as extension topics to prepare students for additional honors courses in the mathematical progression of courses.</p>	<p>This course emphasizes two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. Areas of study include:</p> <ul style="list-style-type: none"> • Reasoning, Lines, and Transformations • Triangles • Polygons and Circles • Three-Dimensional Figures
Course Highlights	<p>Topics include:</p> <ul style="list-style-type: none"> • Relationships within the Real Number System • Practical applications of operations with Real Numbers • Problem solving • Statistical analysis of graphs • Linear relationships – solving and graphing equations 	<p>Topics include:</p> <ul style="list-style-type: none"> • Polynomial operations • Laws of exponents • Factor binomials and trinomials • Solve multistep linear and quadratic equations • Solve multistep linear inequalities • Graph linear equations and inequalities • Investigate and analyze linear and quadratic families • Interpret variation in data set in real-world context • Determine the equation of the curve of best fit for a set of data 	<p>Some extension topics include:</p> <ul style="list-style-type: none"> • Fractional exponents • Simplify rational expressions • Derive the quadratic formula • Solve radical equations • Solve absolute value inequalities 	<p>Topics include:</p> <ul style="list-style-type: none"> • Construct and judge the validity of a logical argument • Parallel lines • Symmetry and transformations • Geometric constructions • Investigate properties of triangles • Solve real-world problems involving polygons and circles • Find the surface area and volume of three-dimensional figures <p>Some extension topics include:</p> <ul style="list-style-type: none"> • Proofs longer than four steps • Evaluate truth tables • Matrices • Vectors • Equation of an ellipse • Non-Euclidean Geometry
High School Credit	N/A	<p>Students earn high school credit</p> <ul style="list-style-type: none"> • grade may be expunged • a student's first high school mathematics course may not be taken over the summer 	<p>Students earn high school credit</p> <ul style="list-style-type: none"> • additional grade point weight of +0.5 • grade may be expunged • a student's first high school mathematics course may not be taken over the summer 	<p>Students earn high school credit</p> <ul style="list-style-type: none"> • additional grade point weight of +0.5 • grade may be expunged • a student's first high school mathematics course may not be taken over the summer
SOL Test	The student will take the Mathematics 8 SOL test in the Spring	<p>The student will take the Algebra 1 SOL test in the Spring</p> <ul style="list-style-type: none"> • A score of pass proficient or passed advanced combined with successful completion of the course will earn a student one verified credit toward graduation 		<p>The student will take the Geometry SOL test in the Spring</p> <ul style="list-style-type: none"> • A score of pass proficient or passed advanced combined with successful completion of the course will earn a student one verified credit toward graduation
9 th Grade Course	Algebra I (Prerequisite: Mathematics 7)	Geometry or Geometry Honors (Prerequisite: Algebra I)		Algebra II or Algebra II Honors (Prerequisite: Algebra I and Geometry)

