6th Grade Mathematics Advanced 1

The sixth grade mathematics course continues to build on elementary math skills in preparation for algebra 1. Students will expand their knowledge in six critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; (4) developing understanding of statistical thinking; (5) developing understanding of and applying proportional relationships; and (6) developing understanding of operations with rational numbers and working with expressions and linear equations. Within each critical area, students will engage in problem solving activities through both individual and group-work practice. Students who seek challenge beyond the six critical areas will engage in enrichment activities that encourage the use of critical thinking skills.

7th Grade Mathematics Advanced 2

The seventh grade mathematics course continues to build on 6th grade skills as a foundation for high school algebra 1 in 8th grade. This course focuses on five critical areas: (1) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; (2) drawing inferences about populations based on samples; (3) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations; (4) grasping the concept of a function and using functions to describe quantitative relationships; and (5) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence. Students who seek challenge beyond the five critical areas will engage in enrichment activities that encourage the use of critical thinking skills.

Pre-Algebra

The pre-algebra course continues to build on skills from 6th and 7th grade as a foundation for high school algebra 1. This course will focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. Students who seek challenge beyond the three critical areas will engage in enrichment activities that reflect the complexity in Algebra 1.

Algebra 1 Honors

This course is designed to provide the foundation for future secondary mathematics courses and to develop skills needed to solve mathematical problems. Topics shall include the following: functions; linear equations and inequalities; systems of linear equation and inequalities; polynomials; simplifying radical and rational expressions; solving and graphing quadratic equations; exponential functions; linear regression analysis including residuals; and introductory probability. Additionally, students will work on test taking skills and problem solving techniques to prepare for the End of Course Exam (EOC).

- Algebra 1 or its equivalent is required for high school graduation.

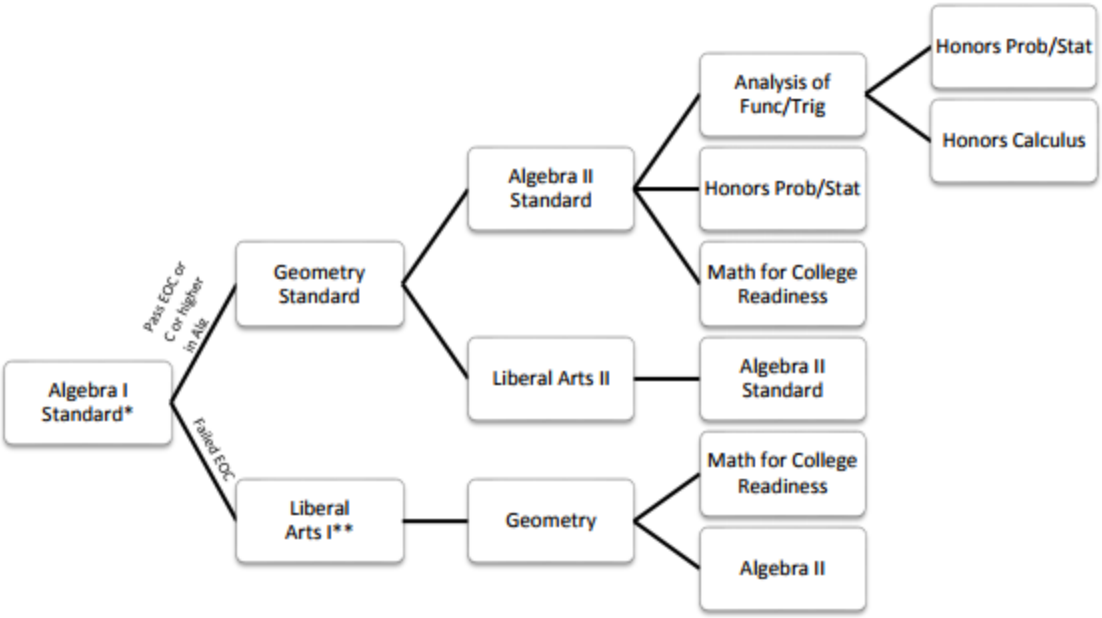
Geometry Honors

This course is designed to develop critical thinking skills in mathematical situations using deduction and discovery. Practical applications of geometric skills and concepts in the real world are included. Topics include, but not limited to the following: logic and reasoning; proofs; the study of Euclidean geometry of lines, planes, angles, triangles; similarity; rigid transformations; congruence; geometric inequalities; explorations with polygons and circles, area and volume; constructions. Additionally, students will work on test-taking skills and problem-solving techniques to prepare for the End of Course Exam (EOC).

Algebra 2 Honors

This course is designed to study the structure of Algebra by providing foundations for applying these skills to other math and science fields. Topics include, but are not limited to the following: complex numbers; polynomial functions and their inverses; systems of linear and nonlinear equations and inequalities; polynomials; rational and radical functions; reciprocal functions; exponential and logarithmic functions; graphing and transformations of all the previously named functions along with trigonometry; sequences and series; conditional probability; normal distributions; introductory inference and margin of error; categorical and quantitative variable statistical analysis.

Standard Track



Honors Track