**Grade 7 Mathematics Course Comparison**\*

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|  | **Mathematics 7** | **Mathematics 7 Honors** | **Algebra 1 Honors** |
| **Content** | This course is based on the **Mathematics 7** curriculum and emphasizes the foundation of algebra. Areas of study include the following six strands:* Number and Number Sense
* Computation and Estimation
* Geometry
* Measurement
* Probability and Statistics
* Patterns, Functions, and Algebra
 | This course is based on **Mathematics 8** curriculum and includes extensions and enrichment. Emphasis is placed on mathematical reasoning, non-routine problem solving, and algebraic connections among mathematical ideas. | This course provides opportunity for students to use algebra as a tool for representing and solving a variety of practical problems. Tables and graphs will be used to interpret algebraic expressions, equations, and inequalities and to analyze functions.  |
| **Course Highlights** | Topics include:* The Rational Number System
* Proportions and Linear Relationships
* Real Numbers and Exponents
* Expressions, Equations, and Inequalities
* Introduction to Functions
* Triangles and Quadrilaterals
* Probability of Random Events
* Data Distributions
* Surface Area and Volume
 | Topics include:* Real Numbers
* Linear Functions
* Algebraic Expressions
* Congruence and Similarity
* Pythagorean Theorem
* Angles and Polygons
* Solid Figures
* Probability of Multiple Events
* Populations and Samples
* Bivariate Data

Some extension topics include:* Venn diagrams, density property, parallel lines, laws of exponents, permutations and combinations, and finding the line of best fit for a set of data
 | Topics include:* Expressions and Operations
* Equations and Inequalities
* Functions
* Lines
* Systems of Equations and Inequalities
* Exponents and Radicals
* Polynomials
* Quadratics
* Data Variation

Some extension topics include:* Fractional exponents, simplify rational expressions, derive the quadratic formula, solve radical equations, and solve absolute value inequalities
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| **Comments** | Pre-Algebra Course | If a student did not take Advanced Mathematics 6 they are essentially skipping a year of mathematics and missing important mathematics concepts such as:* Integer operations
* Solving algebraic equations
 | The following criteria needs to be met for placement in Algebra I Honors:* Advanced Mathematics 6 or a year-long accelerated mathematics course
* IAAT Score at or above the 91st percentile
* A score of pass advanced (500 or above) on the Mathematics 7 SOL test
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| **High School Credit** | N/A | N/A | Students earn high school credit * 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
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| **SOL Test** | The student will take the **Mathematics 7** SOL test in the Spring | The student will take the **Mathematics 8** SOL test in the Spring | The student will take the **Algebra 1** SOL test in the Spring* A score of pass/proficient or pass/advanced combined with successful completion of the course will earn a student one verified credit toward graduation
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| **8th grade Course** | Choice of one of the following:* Mathematics 8
* Algebra I (open enrollment)
* Algebra I Honors (open enrollment)
 | Choice of one of the following:* Mathematics 8
* Algebra I (open enrollment)
* Algebra I Honors (open enrollment)
 |  Geometry Honors – (Pre-requisite: Algebra 1) |

\*Some modifications have been made due to the COVID pandemic.