**Grade 7 Mathematics Course Comparison**

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|  | **Mathematics 7** | **Mathematics 7 Honors** | **Algebra 1 Honors** |
| **Content** | This course 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 **Prealgebra** 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:* Proportional reasoning
* Integer operations
* Relationships between figures
* Applications of statistics and probability
* Solving two-step linear equations and inequalities
* Problem solving through real-life applications
 | Topics include:* 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

Some extension topics include:* Venn diagrams, laws of exponents, permutations and combinations, and finding the line of best fit for a set of data
 | Topics include:* 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

Some extension topics include:* Fractional exponents, simplify rational expressions, derive the quadratic formula, solve radical equations, and solve absolute value inequalities, 3 variable systems of equations
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| **Comments** | Pre-Algebra Course | If a student did not take Compacted 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 passed 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:* Pre-Algebra
* Algebra I (open enrollment)
* Algebra I Honors (open enrollment)
 | Choice of one of the following:* Algebra I (open enrollment)
* Algebra I Honors (open enrollment)
 |  Geometry Honors – (Pre-requisite: Algebra 1) |