**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 |
| **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 |
| **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 |
| **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 |
| **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) |