**Syllabus for 7th Grade Honors Pre-Algebra**

1. **Tools of Algebra**

* Words and expressions
* Variables and Expressions
* Properties
* Ordered Pairs and Relations
* Words, Equations, Tables and Graphs
* Scatter Plots

1. **Operations with Integers**

* Integers and Absolute Value
* Adding Integers
* Subtracting Integers
* Multiplying Integers
* Dividing Integers
* Graphing in Four Quadrants
* Translations and Reflections

1. **Operations with Rational Numbers**

* Fractions and Decimals
* Rational Numbers
* Multiplying Rational Numbers
* Dividing Rational Numbers
* Adding and Subtracting Like Fractions
* Adding and Subtracting Unlike Fractions

1. **Expressions and Equations**

* The Distributive Property
* Simplifying Algebraic Expressions
* Solving Equations by Adding or Subtracting
* Solving Equations by Multiplying or Dividing
* Solving Two-Step Equations
* Writing Equations

**5. Inequalities**

* Perimeter and Area of rectangles/ triangles
* Equations with Variables on both sides
* Writing & Graph Inequalities
* Solving Inequalities
* Solving Multi-step Equations and Inequalities

1. **Ratio, Proportions and Similar Figures**

* Ratios
* Unit Rate
* Converting Rates and Measurements
* Proportional and Non-Proportional Relationships
* Solving Proportions
* Scale Drawling and Models
* Similar Figures
* Dilations
* Indirect Measurement

1. **Percent**

* Fractions and Percents
* Fractions, Decimals and Percents
* Using the Percent Proportion
* Find Percent of a Number Mentally
* Using Percent Equations
* Percent of Change
* Simple Interest and Compound Interest
* Circle Graphs

**11. Distance and Angles**

* Angle and Line Relationships
* Congruent Triangles
* Rotations
* Quadrilaterals
* Polygons
* Area Parallelograms, triangles, and trapezoids
* Circles and Circumference
* Area of Circles
* Area of Composite Figures

**12. Surface Area and Volume**

* 3-D Figures
* Volume of Prisms
* Volume of Cylinders
* Volume of Pyramids, Cones and Spheres
* Surface Area of Prisms
* Surface Area of Cylinders
* Surface Area of Pyramids and Cones
* Similar Solids

1. **Data Analysis**

* Measures of Central Tendency
* Stem-and-Leaf Plot
* Measures of Variation
* Box-and-Whisker Plots
* Histograms
* Theoretical and Experimental Probability
* Using Sampling to Predict
* Counting Outcomes
* Permutations and Combinations
* Counting Outcomes
* Probability of Compound Events