**7th Grade Course Outline**

**Number System (21%)**

* Add, subtract, multiply, and divide positive and negative numbers
* Add, subtract, multiply, and divide fractions and decimals
* Convert between fractions, decimals, and percentages

**Rate, Ratio, and Proportion (19%)**

* Calculate a unit rate (price or speed)
* Understand proportions are equivalent fractions (ratios) and use that knowledge to solve for an unknown (x)
* Calculate percentages (What is 30% of 12?, 12 is what percent of 60?, 40% of what is 4?)
* Solve for mark-downs (percent off), tip, tax, etc using percentages
* Solve problems involving scale drawings
* Represent proportional relationships as an equation
* Identify the unit rate in tables, graphs, or word problems
* Identify the rate of change

**Equations, and Inequalities (17%)**

* Solve multi-step equations (including distributing and combining like terms AND fractions/decimals)
* Solve a 2 step inequality and graph the solution on a number line
* Identify which variable is independent and which is dependent
* Write an equation given a situation or a table of information

**Geometry (23%)**

* Find the area of triangles, rectangles, circles, and other polygons that can be decomposed into those shapes.
* Find the circumference of a circle
* Create triangles given 3 measurements
* Determine if 3 lengths can make a triangle
* Describe cross sections of 3D figures.
* Solve for unknown angles using facts about supplementary, complementary, vertical, and adjacent angles.
* Find the volume of a rectangular prism and triangular prism.
* Find the surface area of a rectangular prism and triangular prism.

**Probability (20%)**

* Describe the probability of an event as a fraction, decimal, and percent
* Calculate theoretical probability
* Compare/Contrast theoretical and experimental probability.
* Find the probability of compound events suing tree diagrams and counting principle