Teacher:_____   **School Year:**_____

Seventh Grade Objective Sheet   **Student:**_____

Objectives:	1	2	3	4	Comments:
NUMBER AND OPERATIONS					
1. Apply concepts of rational numbers and perform basic operations emphasizing the concepts of ratio, proportion, and percent with and without the use of calculators.					
a. Use the order of operations to simplify and/or evaluate whole numbers (including exponents and grouping symbols). (DOK 1)					
b. Solve problems involving addition, subtraction, multiplication, and division of rational numbers. Express answers in simplest form. (DOK 2)					
c. Convert among decimals, fractions, mixed numbers, and percents. (DOK 1)					
d. Evaluate and estimate powers and square roots of real numbers. (DOK 2)					
e. Explain the relationship between standard form and scientific notation. (DOK 1)					
f. Multiply and divide numbers written in scientific notation. (DOK 1)					
g. Solve real-life problems involving unit price, unit rate, sales price, sales tax, discount, simple interest, commission, and rates of commission. (DOK 1)					
h. Solve contextual problems requiring the comparison, ordering, and application of integers. (DOK 2)					

i. Develop a logical argument to demonstrate the 'denseness' of rational numbers. (DOK 3)					
ALGEBRA					
2. Develop and apply the basic operations of rational numbers to algebraic and numerical tasks. Create and apply algebraic expressions and equations.					
a. Recognize, describe, and state the rule of generalized numerical and geometric patterns using tables, graphs, words, and symbols. (DOK 2)					
b. Solve equations that represent algebraic and real-world problems using multiple methods including the real number properties. (DOK 1)					
c. Formulate algebraic expressions, equations, and inequalities to reflect a given situation and vice versa. (DOK 2)					
d. Complete a function table based on a given rule and vice versa. (DOK 1)					
e. Identify the following properties using variables and apply them in solving problems: (DOK 1)					
f. Predict the shape of a graph from a function table. (DOK 2)					
GEOMETRY					
3. Apply geometric relationships of angles, two- and three-dimensional shapes, and transformations.					
a. Classify and compare three-dimensional shapes using their properties. (DOK 1)					
b. Construct two-dimensional representations of three-dimensional objects. (DOK 2)					
c. Justify the congruency or symmetry of two figures. (DOK 2)					

d. Perform transformations (rigid and non-rigid motions) on two-dimensional figures using the coordinate plane. (DOK 2)					
e. Create an argument using the Pythagorean Theorem principles to show that a triangle is a right triangle. (DOK 2)					
f. Construct and classify angles. (DOK 2)					
MEASUREMENT					
4. Apply appropriate techniques, tools, and formulas to determine measurements with a focus on real-world problems. Recognize that formulas in mathematics are generalized statements about rules, equations, principles, or other logical mathematical relationships.					
a. Convert from one unit to another, perform basic operations, and solve real-world problems using standard (English and metric) measurements within the same system. (DOK 2)					
b. Use formulas and strategies, such as decomposition, to compute the perimeter and area of triangles, parallelograms, trapezoids, the circumference and area of circles, and find the area of more complex shapes. (DOK 2)					
c. Develop and justify geometric formulas for volume and surface area of cylinders, pyramids, and prisms. (DOK 3)					
d. Solve problems involving scale factors using ratios and proportions. (DOK 2)					
DATA ANALYSIS & PROBABILITY					
5. Organize and interpret data. Analyze data to make predictions.					

a. Use proportions, estimates, and percentages to construct, interpret, and make predictions about a population based on histograms or circle graph representations of data from a sample. (DOK 2)					
b. Determine how outliers affect mean, median, mode, or range. (DOK 2)					
c. Construct and interpret line graphs, frequency tables, circle graphs, box-and-whisker plots, and scatter plots to generalize trends from given data. (DOK 2)					
d. Determine probabilities through experimentation, simulation, or calculation. (Note: Make and test conjectures and predictions by calculating the probability of an event.) (DOK 2)					