

Teacher: \_\_\_\_\_

School Year: \_\_\_\_\_

**Pre-Algebra Objective Sheet**

Student: \_\_\_\_\_

Objectives:	1	2	3	4	Comments:
<b>NUMBER AND OPERATIONS</b>					
<i>1. Apply concepts and perform basic operations using real numbers in real-world contexts.</i>					
a. Define, classify, and order rational and irrational numbers and their subsets. (DOK 1)					
b. Formulate and solve standard and real-life problems involving addition, subtraction, multiplication, and division of rational numbers. (DOK 2)					
c. Apply the concepts of Greatest Common Factor (GCF) and Least Common Multiple (LCM) to monomials with variables. (DOK 2)					
d. Simplify and evaluate expressions using order of operations and use real number properties to justify solutions. (DOK 2)					
e. Explain the rules of exponents related to multiplication and division of terms with exponents. (DOK 2)					
f. Recognize and appropriately use exponential and scientific notation. (DOK 1)					
g. Explain and use the inverse relationship between square roots and squares. (DOK 2)					
<b>ALGEBRA</b>					
<i>2. Apply properties to simplify algebraic expressions, solve linear equations and inequalities, and apply principles of graphing.</i>					
a. Simplify and evaluate numerical and algebraic expressions. (DOK 1)					
b. Apply properties of real numbers with an emphasis on the distributive properties of multiplication over addition and subtraction. (DOK 1)					

c. Solve and check equations and inequalities using one variable. (DOK 2)					
d. Model inequalities (and their solutions) on a number line. (DOK 1)					
e. Graph linear equations and non-linear equations ( $y = x^2$ ) using multiple methods including t-tables and slope-intercept. (DOK 2)					
f. Given a linear graph, identify its slope as positive, negative, undefined, or zero, and interpret slope as rate of change. (DOK 2)					
g. Determine slope, x-intercept, and y-intercept from a graph and/or equation in slope-intercept or standard form. (DOK 1)					
h. Add, subtract, and multiply monomials and binomials. (DOK 1)					
i. Predict characteristics of a graph given an equation or t-table. (DOK 2)					
<b>GEOMETRY</b>					
<i>3. Identify and apply geometric principles to polygons, angles, and two- and three-dimensional figures.</i>					
a. Locate and identify angles formed by parallel lines cut by a transversal(s) (e.g., adjacent, vertical, complementary, supplementary, corresponding, alternate interior, and alternate exterior). (DOK 1)					
b. Find missing angle measurements for parallel lines cut by a transversal(s) and for a vertex of a polygon. (DOK 1)					
c. Explain the Pythagorean Theorem and apply it to solve routine and non-routine problems. (DOK 3)					

d. Solve real-world and non-routine problems involving congruent and similar figures. (DOK 3)					
e. Use two-dimensional representations (nets) of three-dimensional objects to describe objects from various perspectives. (DOK 2)					
<b>MEASUREMENT</b>					
<i>4. Understand measurable attributes of objects and apply various formulas in problem solving situations.</i>					
a. Solve real-world application problems that include length, area, perimeter, and circumference using standard measurements. (DOK 2)					
b. Develop, analyze, and explain methods for solving problems involving proportions, such as scaling and finding equivalent ratios. (DOK 3)					
c. Use formulas and/or appropriate measuring tools to find length and angle measures (to appropriate levels of precision), perimeter, area, volume, and surface area of polygons, circles, spheres, cones, pyramids, and composite or irregular figures. (DOK 1)					
<b>DATA ANALYSIS &amp; PROBABILITY</b>					
<i>5. Interpret, organize, and make predictions about a variety of data using concepts of probability.</i>					
a. Use a given mean, mode, median, and range to summarize and compare data sets including investigation of the different effects that change in data values have on these measures. (DOK 2)					
b. Select the appropriate measures of central tendency for a particular purpose. (DOK 2)					

c. Make and list conjectures by calculating probability for experimental or simulated contexts. (DOK 3)					
d. Construct and interpret scatter plots to generalize trends from given data sets. (DOK 3)					

