7TH GRADE MATH POWER STANDARDS

Number Sense
- I will locate positive and negative rational numbers on the number line, understand the concept of opposites, and plot pairs of positive and negative rational numbers on a coordinate grid.
- I will compare positive and negative rational numbers expressed in various forms using the symbols $<$, $>$, $\leq$, $\geq$.
- I will recognize and generate equivalent representations of positive and negative rational numbers, including equivalent fractions.
- I will add, subtract, multiply, and divide positive and negative rational numbers that are integers, fractions, and terminating decimals using efficient, standard procedures.
- I will use real-world contexts and the inverse relationship between addition and subtraction to explain why the procedures of arithmetic with negative rational numbers make sense.

Algebra
- I will use proportional reasoning to solve problems involving ratios in various contexts and determine whether a solution is reasonable.
- I will generate equivalent numerical and algebraic expressions that contain rational numbers and whole number exponents.
- I will recognize and use properties of algebra including the associative, commutative, and distributive laws.
- I will evaluate algebraic expressions containing rational numbers and whole number exponents when given specified values of their variables.
- I will represent relationships in various contexts with equations involving variables (positive and negative rational numbers), use the properties of equality to solve for the value of a variable, and interpret the solution in the original context.

Geometry
- I will demonstrate an understanding of the proportional relationship between the diameter and circumference of a circle and that the unit rate (constant of proportionality) is π .
- I will calculate the circumference and area of circles and sectors of circles to solve problems in various contexts.
- I will find volume and surface area of cylinders.

Data Analysis and Probability
- I will determine mean, median and range for quantitative data and from data represented in a display and use these quantities to draw conclusions about the data, compare different data sets, and make predictions.
- I will use reasoning with proportions to appropriately display and interpret data in circle graphs (pie charts) and histograms and know how to create the display using a spreadsheet or other graphing technology.
- I will calculate probability as a fraction of sample space or as a fraction of area and express probabilities as percents, decimals, and fractions.