**Virginia Standards of Learning Assessment**

**Grade 6 Mathematics Performance Level Descriptors**

| **Fail/Below Basic**  | **Fail/Basic**  | **Pass/Proficient**  | **Pass/Advanced**  |
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| A student performing at this level should be able to:*Reporting Category 1: Number and Number Sense** define ratio as the comparison of two quantities
* use a pictorial model to represent numbers in fraction, decimal, or percent form
* identify positive and negative numbers on a number line
* identify powers of ten by recognizing patterns
* identify the base and exponent of an exponential expression
* use inequality symbols to represent the relationship between integers modeled on a number line

*Reporting Category 2: Computation and Estimation** add, subtract, multiply, and divide basic fractions
* define the order of operations process used for simplifying numerical expressions
* use manipulatives to add integers

*Reporting Category 3: Measurement and Geometry** define 3.14 and 22/7 as approximations for pi
* identify the origin and x- and y-axis on the coordinate plane
* find the perimeter of a labeled figure
* identify polygons as congruent or not congruent

*Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra** read data represented in bar graphs, line graphs, and circle graphs
* define mean as an average
* find a missing value in a ratio table when given the unit rate
* describe an algebraic expression
 | A student performing at this level should be able to:*Reporting Category 1: Number and Number Sense*can recognize ratios using fractions, colons, or the word *to* * represent equivalencies between decimals, fractions, and percents
* represent integers on a number line
* identify the absolute value of whole numbers
* represent an exponential as repeated multiplication
* use manipulatives to identify perfect squares

*Reporting Category 2: Computation and Estimation** add, subtract, multiply, and divide proper fractions
* apply the order of operations to simplify a whole number expression
* use manipulatives to add and subtract integers

*Reporting Category 3: Measurement and Geometry** identify relationships between parts of a circle and define pi as a ratio
* apply formulas to problems involving area and perimeter of rectangles and triangles
* identify the coordinates of a point and the four quadrants
* verify the congruence of polygons and angles
* identify a line of symmetry

*Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra** interpret data represented in a circle graph
* describe the three measures of center
* determine whether a proportional relationship exists between two quantities
* solve one-step equations with models
* describe the solution set to an inequality
 | A student performing at this level should be able to:*Reporting Category 1: Number and Number Sense** compare quantities with ratio notation
* compare and order integers and positive rational numbers
* describe equivalencies among decimals, fractions, and percents using various representations and symbols
* describe absolute value of integers
* represent patterns with exponents and perfect squares

*Reporting Category 2: Computation and Estimation** model the product and quotient of fractions and mixed numbers
* multiply/divide mixed numbers
* solve multistep practical problems involving fractions, mixed numbers, and decimals
* simplify numerical expressions involving integers

*Reporting Category 3: Measurement and Geometry** solve practical problems involving the area and perimeter of rectangles and triangles
* solve practical problems involving the circumference and area of circles
* use coordinates to graph points and identify the corresponding quadrant and axis
* identify regular polygons and lines of symmetry
* determine congruence of segments, angles, and polygons

*Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra** create circle graphs and make predictions
* represent the mean and the effect of adding, removing, or changing one value in a data set
* represent a proportional relationship from a practical situation, table, and graph
* make connections between two proportional relationships
* solve one-step linear equations
* solve and graph one-step inequalities
 | A student performing at this level should be able to:*Reporting Category 1: Number and Number Sense** apply ratios to practical problems
* compare and order positive rational numbers, including percents written in fraction and decimal form
* apply integers and absolute value to a practical context
* model perfect squares
* identify two or more ways to represent a given number using exponents

*Reporting Category 2: Computation and Estimation** solve multistep practical problems involving fractions, mixed numbers, decimals, and integers

*Reporting Category 3: Measurement and Geometry** describe and explain the derivation of pi
* solve multistep practical problems involving the area and perimeter of rectangles and triangles
* solve multistep practical problems involving circumference and area of circles
* describe relative locations of points in a coordinate plane
* describe corresponding parts of a figure that is congruent to a given figure

*Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra** create circle graphs to represent practical situations
* solve practical problems using circle graphs, and relate circle graphs to other types of graphs
* solve practical problems involving changes in data and measures of center
* apply proportional relationships to solve practical problems
* solve practical problems using linear equations
* represent and graph practical problems using inequalities
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