**Virginia Standards of Learning Assessment**

**Grade 7 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, Number Sense, Computation, and Estimation** identify negative powers of ten for numbers between zero and one
* identify numbers in scientific notation, perfect squares, and the absolute value of a whole number
* add, subtract, multiply, and divide rational numbers expressed in the same format
* identify equivalent ratios

*Reporting Category 2: Measurement and Geometry** determine the volume of a prism or cylinder when given a labeled figure
* identify corresponding parts of similar quadrilaterals and triangles
* identify and sort types of quadrilaterals when given figures
* distinguish between a translation and a reflection of a figure

*Reporting Category 3: Probability, Statistics, Patterns, Functions, and Algebra** construct a histogram when given predetermined intervals
* identify *m* as the slope in *y = mx* and *b* as the y-intercept in

*y = x + b* equations* evaluate expressions given one whole number replacement value, with operations limited to addition, subtraction, multiplication, and division
* identify the first step used to solve a two-step linear equation and a one- or two-step inequality
 | A student performing at this level should be able to:*Reporting Category 1: Number, Number Sense, Computation, and Estimation** identify the decimal or fraction equivalent of negative powers of ten
* compare and order fractions, decimals, and percents
* compare two numbers written in scientific notation
* identify perfect squares to 100
* determine the absolute value of an integer
* solve practical problems involving whole numbers and decimals
* write a proportion to represent a practical proportional relationship

*Reporting Category 2: Measurement and Geometry** determine the volume of prisms and cylinders when given a figure
* write similarity statements to represent corresponding parts of similar quadrilaterals and triangles
* identify characteristics of parallelograms, rectangles, rhombi, and trapezoids
* identify the image of a figure that has been translated or reflected

*Reporting Category 3: Probability, Statistics, Patterns, Functions, and Algebra** compute theoretical and experimental probabilities
* construct and identify data in a histogram
* determine the slope or y-intercept of a graphed line or a given equation
* evaluate expressions for given integer replacement values
* solve two-step linear equations and one-step inequalities limited to whole number coefficients, constants, and solutions.
 | A student performing at this level should be able to:*Reporting Category 1: Number, Number Sense, Computation, and Estimation** represent negative powers of ten in fraction and decimal form
* represent numbers in scientific notation
* compare and order rational numbers
* identify perfect squares from 0 to 400
* describe and determine absolute value of rational numbers
* solve practical problems involving rational numbers
* use proportional reasoning to solve problems

*Reporting Category 2: Measurement and Geometry** describe and determine the volume and surface area of prisms and cylinders
* solve practical problems involving prisms and cylinders
* determine missing side lengths and angles of similar quadrilaterals and triangles
* sort and classify quadrilaterals based on their characteristics
* sketch a right triangle or rectangle that has been reflected and/or translated

*Reporting Category 3: Probability, Statistics, Patterns, Functions, and Algebra** determine theoretical and experimental probability
* analyze histograms
* determine the slope and y-intercept from a table or graph and write the related equation
* graph lines given slope and y-intercept
* evaluate expressions for given rational number replacement values
* solve two-step linear equations and one- and two-step linear inequalities
 | A student performing at this level should be able to:*Reporting Category 1: Number, Number Sense, Computation, and Estimation** convert between numbers written in scientific notation, fraction, and decimal form
* compare, order, and solve practical problems involving rational numbers
* apply knowledge of perfect squares and square roots
* use absolute value to solve practical problems
* apply proportional reasoning to solve multistep practical problems

*Reporting Category 2: Measurement and Geometry** solve practical problems involving applications of surface area and volume of prisms and cylinders
* solve practical problems involving similar quadrilaterals and triangles
* compare and contrast quadrilaterals based on their properties
* apply translations and reflections to a right triangle or rectangle

*Reporting Category 3: Probability, Statistics, Patterns, Functions, and Algebra** describe the difference between experimental and theoretical probability
* make comparisons and inferences when given a histogram and other graphical representations of the same data set
* graph linear equations in the form *y = mx* and *y = x + b* and make connections among multiple representations
* evaluate multistep expressions with three replacement values
* solve linear equations and inequalities and graph solutions to inequalities
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