**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 |