**Virginia Standards of Learning Assessment**

**Algebra I (2016 SOL) Performance Level Descriptors**

| **Fail/Does Not Meet** | **Pass/Proficient** | **Pass/Advanced** |
| --- | --- | --- |
| A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * identify verbal phrases that represent algebraic expressions * substitute values into expressions * identify the square root of a perfect square * identify the cube root of a perfect cube * represent polynomial expressions using concrete and pictorial representations * add/subtract polynomials * add/subtract two monomial radicals with like radicands * factor a numerical greatest common factor from a polynomial expression   *Reporting Category 2: Equations and Inequalities*   * identify solution(s) to:   + systems of linear equations graphically, and   + systems of linear inequalities graphically * identify solution(s), given a graph, to a   + linear equation,   + linear inequality, and   + quadratic equation * identify the slope and y-intercept given:   + the graph of the line,   + two points on a graph , or   + the equation of the line in slope-intercept form * write the equation of the line in slope-intercept form given the graph of the line * graph a line given the equation in slope-intercept form   *Reporting Category 3: Functions and Statistics*   * identify a direct variation from a graph * use a line of best fit to interpret a set of data * determine the domain and range of a discrete function * determine whether a relation is a function | A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * translate between verbal and algebraic expressions * evaluate expressions for given replacement values * simplify square roots of whole numbers and monomial expressions * simplify cube roots of integers * perform operations on two monomial radical expressions * determine sums, differences, and products of polynomial expressions and quotients using a monomial, binomial, or factored divisor * factor polynomial expressions   *Reporting Category 2: Equations and Inequalities*   * solve:   + multistep linear equations,   + linear inequalities,   + quadratic equations,   + systems of linear equations,   + systems of linear inequalities, and   + one or two-step literal equations * represent practical situations involving:   + systems of linear equations, and   + systems of linear inequalities * graph a linear equation * write the equation of a line given:   + the graph,   + two points, and   + a point and slope   *Reporting Category 3: Functions and Statistics*   * determine characteristics of linear and quadratic functions, including:   + domain,   + range,   + zeros, and   + x- and y-intercepts * determine the curve of best fit for a set of data * analyze a relation to determine direct or inverse variation * identify multiple representations of functions | A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * represent and evaluate practical quantitative situations verbally and algebraically * simplify and perform operations on monomial and polynomial expressions, including monomial expressions that contain square or cube roots with leading coefficients * factor and verify algebraic factorizations of polynomial expressions   *Reporting Category 2: Equations and Inequalities*   * solve practical problems involving:   + multistep linear equations,   + linear inequalities,   + literal equations,   + quadratic equations,   + systems of linear equations, and   + systems of linear inequalities * describe the effects of linear function transformations defined by changes in the slope or the y-intercept * write the equation of a line given:   + the graph,   + two points, and   + a point and slope * graph a linear equation to represent a practical situation   *Reporting Category 3: Functions and Statistics*   * analyze characteristics of linear and quadratic functions that involve or describe practical situations including:   + domain,   + range,   + zeros, and   + x- and y-intercepts * analyze models of direct and inverse variation to generate conclusions from practical situations * model and make predictions for a set of data using the curve of best fit * make connections among multiple representations of functions |