**Virginia Standards of Learning Assessment**

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

| **Fail/Does Not Meet** | **Pass/Proficient** | **Pass/Advanced** |
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| A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * add, subtract, and simplify:   + radical expressions, and   + polynomial expressions * add and subtract:   + complex numbers having like denominators, and   + rational expressions having like denominators * factor polynomials without a greatest common factor (limited to three terms)   *Reporting Category 2: Equations and Inequalities*   * find solutions from graphs of:   + equations,   + inequalities, and   + nonlinear systems of equations   *Reporting Category 3: Functions and Statistics*   * identify characteristics of a function and its family including:   + zeros,   + intercepts, and   + values * identify curves of best fit for a data set * identify whether a situation can be represented by a direct or inverse variation * identify a permutation and combination * identify properties of a normal distribution * find the *n*th term or write the first *n* terms of an arithmetic or geometric sequence * identify the graphs of parent functions | A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * simplify and perform operations on:   + complex numbers,   + radical expressions,   + rational expressions, and   + polynomial expressions * factor polynomials   *Reporting Category 2: Equations and Inequalities*   * solve equations including:   + absolute value,   + quadratic,   + radical,   + rational equations, and   + nonlinear systems * solve absolute value linear inequalities   *Reporting Category 3: Functions and Statistics*   * determine characteristics of a function, including:   + zeros,   + intercepts,   + factors of polynomial expressions,   + domain, range, continuity, and discontinuity,   + interval behavior,   + asymptotes, and   + extrema * make connections among multiple representations of a function * analyze transformations of parent functions * determine curves of best fit * solve problems involving:   + permutations and combinations, and   + joint, inverse, or a combination of variations * solve problems and compare normally distributed data sets using:   + mean,   + standard deviation, and   + z-scores * determine the *n*th term and write the first *n* terms of an arithmetic or geometric sequence * determine the sum of an arithmetic or geometric series and the sum of a convergent infinite series | A student performing at this level should be able to:  *Reporting Category 1: Expressions and Operations*   * apply multistep simplification and perform operations on:   + complex numbers,   + radical expressions,   + rational expressions, and   + polynomial expressions * discriminate between methods to efficiently factor polynomials that require multiple steps   *Reporting Category 2: Equations and Inequalities*   * interpret, model, and solve practical problems using:   + equations,   + inequalities, and   + nonlinear systems of equations   *Reporting Category 3: Functions and Statistics*   * analyze characteristics of functions that involve or describe practical situations including:   + zeros,   + intercepts,   + factors of polynomial expressions,   + domain, range, continuity, and discontinuity,   + interval behavior,   + asymptotes, and   + extrema * make connections among multiple representations of a function * analyze transformations of parent functions * determine and interpret curves of best fit * solve practical problems involving:   + permutations and combinations, and   + joint, inverse, or a combination of variations * apply properties to find the probability associated with areas under the normal curve given practical situations * use z-scores to compare data * model and solve practical problems using sequences and series |