



**Reavis High School**  
**Adv. Topics of Algebra Curriculum Snapshot**



**Unit 1: Real Numbers and Variable Expressions**

10  
Days

Students will be capable of using algebraic terms to define elements in a set. Students will also be able to solve real number equations using order of operations and properties of real numbers. In addition, students will be able to convert real numbers into fractions and decimals. Finally, students will be capable of translating verbal expressions into variable expressions and simplifying.



**Unit 2: Solving Equations and Inequalities**

19  
Days

Students will be capable of solving one-step and multiple-step variable linear equations. Students will also be able to translate variable expressions into simplified verbal expressions and solve. In addition, students will be able to complete consecutive integer problems. Students will be capable of completing geometry problems including perimeter, angles formed by intersecting lines, and the angles of a triangle. Students will also use the discount and markup formulas to determine components of the equations. Finally, students will be capable of determining the union and intersection of one-variable inequalities as well as solving those inequalities.



**Unit 3: Linear Functions and Inequalities in Two Variables**

24  
Days

Students will be capable of plotting points on a rectangular coordinate system. Students will also be capable of finding the length and midpoint of a line segment. In addition, students will be able to find the slope of linear functions and graph linear functions using a table, x- and y-intercepts, and slope-intercept form. Students will also be capable of determining the equation of a line given a point and the slope, or two points as well as determining the equation of parallel and perpendicular lines. Finally, students will be capable of graphing the solution set of inequalities in two variables.



## Unit 4: Systems of Equations and Inequalities

17  
Days

Students will be capable of solving systems of linear equations by graphing, the substitution method, the addition method, matrices, and using determinants. Students will also be able to solve systems of linear inequalities.



## Unit 5: Polynomials

21  
Days

Students will be capable of evaluating polynomial functions as well as adding, subtracting, multiplying, multiplying using FOIL, and dividing polynomials. Students will also be capable of multiplying and simplifying monomials, multiplying a polynomial by a monomial, and dividing a polynomial by a monomial. Finally, students will be able to multiply binomials that have special products and divide polynomials using synthetic division.



## Unit 6: Factoring

26  
Days

Students will be capable of factoring using various methods. These methods will include factoring a monomial from a polynomial, factoring by grouping, and factoring trinomials by using trial factors and grouping. Students will also be capable of factoring the difference of two perfect squares, factoring perfect-square trinomials, and factoring trinomials that are in quadratic form. Finally, students will be able to use the processes of factoring learned in this unit to solve equations.



## Unit 7: Quadratic Functions

15  
Days

Students will be able to graph, factor, and solve quadratic functions and equations. Students will be able to solve quadratic equations by factoring, and by the Quadratic Formula. Also, students will be able to write a quadratic function given characteristics of their graph.



## Unit 8: Radicals

8 Days

Students will be capable of simplifying, adding, subtracting, multiplying, and dividing radical expressions. In addition, students will be able to solve equations containing one or more radical expressions.



## Unit 9: Matrices and Determinants

5 Days

Students will be able to add, subtract, and multiply a matrix by a scalar and solve matrix equations. Students will evaluate determinants of 2x2 matrices.