

## **Barton Community College College Prep Math Modules**

### **Module 1: Fractions**

Topics include least common multiple among a set of whole numbers, reducing, multiplying, dividing, adding and subtracting fractions, divisibility tests, mixed numbers, and improper fractions.

### **Module 2: Decimals and Percent**

Topics include ordering, adding, subtracting, multiplying and dividing with decimals, converting between fractions, decimals and percent, rounding, ratios, proportions, and percent increase/decrease.

### **Module 3: Real Numbers and Introduction to Algebra**

Topics include adding, subtracting, multiplying and dividing signed numbers, absolute value, order of operations, sets and subsets of real numbers, the properties of real numbers such as commutative, associative, inverse, identity and distributive properties, combining like terms and evaluating expressions.

### **Module 4: Linear Equations in One Variable**

Topics include solving linear equations and absolute value equations. The equations could contain fractional or decimal coefficients. The solution set could contain no solution or an infinite number of solutions.

### **Module 5: Linear Inequalities in One Variable**

Topics include graphing solution sets of linear inequalities on a number line, solving linear inequalities, and solving absolute value inequalities. The inequalities could contain fractional or decimal coefficients. The solution set could contain no solution or an infinite number of solutions.

### **Module 6: Linear Equations in Two Variables**

Topics include graphing a linear equation in two variables by generating points and using intercepts, function notation, domain and range of a function, vertical line test, calculating slope, graphing lines using a point and slope, parallel and perpendicular lines, vertical and horizontal lines, and writing the equation of a line.

### **Module 7: Systems of Equations in Two Variables**

Topics include graphing, substitution and elimination methods for solving systems, and develop a system of equations to find solutions to an application problem.

### **Module 8: Polynomial Operations**

Topics include exponent simplification rules, adding, subtracting, multiplying and dividing polynomials.

**Module 9: Factoring**

Topics include factoring polynomials by a variety of methods including GCF, grouping, difference of two squares, sum or difference of cubes and general factoring.

**Module 10: Rational Expressions and Equations**

Topics include reducing, multiplying, dividing, adding, subtracting rational expressions, simplifying complex fractions and solving rational equations.

**Module 11: Radical Expressions and Equations**

Topics include rational exponents, simplifying, multiplying, dividing, adding, subtracting radical expressions, complex numbers, and solving radical equations.

**Module 12: Quadratic Equations and Functions**

Topics include solving quadratic equations by factoring, square root method, completing the square and the Quadratic Formula, sketching graphs of quadratic functions, and intercepts and vertex for a quadratic function.