

# ALGEBRA I

## CONCEPT/UNIT OUTLINE

### UNIT ONE: Introduction to Algebra

- 1 Simplify expressions using order of operations
- 2 Evaluate expressions
- 3 Translate words into expressions and equations
- 4 Compare real numbers
- 5 Find opposites and use absolute values

### UNIT TWO: Working with Real Numbers

- 6 Addition of real numbers
- 7 Subtraction of real numbers
- 8 Multiplication of real numbers
- 9 Division of real numbers

### UNIT THREE: Solving Equations

- 10 Solve one-step equations by addition or subtraction
- 11 Solve one-step equations by multiplication or division
- 12 Solve multiple step equations
- 13 Solve equations with variables on both sides
- 14 Identify and properly use properties of algebra
- 15 Write equations from a scenario to solve problems

### UNIT FOUR: Simplifying Polynomials

- 16 Write, simplify, and evaluate expressions in exponential form
- 17 Add & subtract polynomials
- 18 Multiply with monomials
- 19 Multiply with polynomials
- 20 Rewrite formulas
- 21 Problem solve with rates and area

### UNIT FIVE: Factoring Polynomials

- 22 Simplify rational monomials and polynomials
- 23 Factor binomials
- 24 Factor trinomials
- 25 Factor by grouping
- 26 Solve equations by factoring
- 27 Solve problems using factoring

### UNIT SIX: Working with Rational Expressions

- 28 Simplify rational expressions
- 29 Multiply rational expressions
- 30 Divide rational expressions
- 31 Add rational expressions
- 32 Subtract rational expressions
- 33 Long division of polynomials

### UNIT SEVEN: Applying Fractions

- 34 Write and simplify ratios
- 35 Write and solve proportions
- 36 Solve equations with fractions
- 37 Solve equations with percents
- 38 Solve various ideas with fractional equations
- 39 Use negative exponents

### UNIT EIGHT: Functions

- 40 Find solutions to equations with two variables
- 41 Identify points and use them to graph lines
- 42 Find the slope of a line
- 43 Write and graph an equation of a line in slope-intercept form
- 44 Find the equation of a line parallel and perpendicular
- 45 Evaluate a function

### UNIT NINE: Systems of Equations

- 46 Solve a system of equations by graphing
- 47 Solve a system of equations by substitution
- 48 Solve a system of equations by cancellation of variables
- 49 Solve problems with systems of equations

### UNIT TEN: Inequalities

- 50 Solve inequalities
- 51 Solve combined inequalities
- 52 Use absolute value with inequalities
- 53 Graph linear inequalities
- 54 Graph a system of linear inequalities

### UNIT ELEVEN: Radicals and Geometry

- 55 Simplify radical expressions
- 56 Simplify radical expressions by multiplication and division
- 57 Simplify radical expressions by addition and subtraction
- 58 Use the Pythagorean Theorem
- 59 Use the midpoint and distance formulas
- 60 Solve quadratic equations