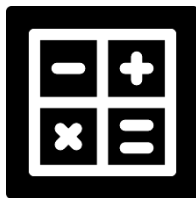


# Algebra Course Outline

## Unit 1: Intro to Algebra

- Operations with real numbers
- Order of operations
- Evaluating and simplifying expressions
- Translating expressions
- Distributive property



## Unit 2: Equations

- Solving Equations
  - One and two step equations
  - Variables on Both Sides
  - Multi-step equations
  - Infinite and No solution equations
  - Proportional equations
- Absolute value equations
- Applications of equations

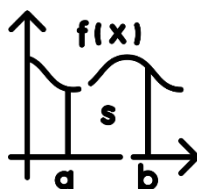


## Unit 3: Inequalities



- Solving and graphing inequalities
- Multi-step inequalities
- Compound inequalities
- Absolute value inequalities

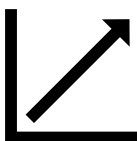
## Unit 4: Relations and Functions



- Relations, domain, range
- Functions
- Graphing functions
- Function notation
- Real world graphs
- Slope of a line

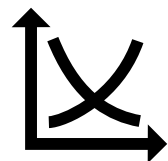
## Unit 5: Linear Functions

- Graphing linear functions
- Slope-intercept vs standard form
- Vertical and horizontal lines
- Word problems
- Finding the equation of a line
- Parallel and perpendicular lines



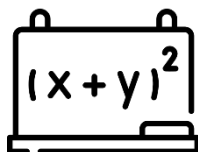
## Unit 6: Systems of Equations

- Solving systems of equations
  - By graphing, substitution, elimination
- Word problems
- Graphing linear inequalities
- Systems of linear inequalities



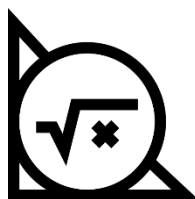
## Unit 7: Exponents and Polynomials

- Product, quotient, power rules of exponents
- Negative exponents
- Classifying, operations with polynomials
- Factoring polynomials



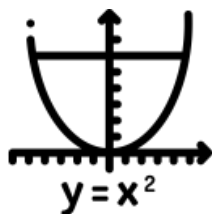
- By GCF
- Trinomials with  $x^2$  and  $ax^2$
- factor by grouping
- factoring completely
- Simplifying rational expressions

## Unit 8: Radicals



- Simplifying radicals
- Radicals with variables
- Adding and subtracting radicals
- Multiplying radicals
- Rationalizing the denominator
- Pythagorean Theorem
- Distance and Midpoint formulas

## Unit 9: Quadratics



- Graphing quadratic equations
- Vertex, maximum/minimum, axis of symmetry
- Solving quadratics by graphing, factoring, quadratic formula