

# Algebra 1 Curriculum Guide 2022-2023

## Algebra Basics

August 11-25

- The Real Number System
- Properties
- Order of Operations
- Absolute Value
- Evaluating Expressions
- Combining Like Terms
- Simplifying Expressions
- Translating Expressions, Equations, and Inequalities

## Solving Equations and Inequalities

August 26-October 7

- Solving One and Two step Equations
- Solving Multistep equations
- Solving Equations with a Variable on Both Sides
- Infinite and No Solution Equations
- Proportions
- Absolute value equations
- Literal Equations and Formulas
- Word problems
- Solving Inequalities in one variable
- Multistep inequalities
- Compound inequalities
- Absolute value inequalities

## Linear Equations

October 17-November 11

- Slope from a graph and slope formula
- Slope-Intercept Form
- Point-Slope Form
- Standard Form
- X and Y Intercepts
- Vertical and Horizontal Lines
- Parallel and Perpendicular Lines
- Word Problems

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## Linear Functions

November 14-December 16

- Relations and Functions
- Domain and Range
- Linear Functions
- Graphing by Function Table
- Function Notation, Evaluating Functions
- Zeros of Functions

## Exponents and Exponential Functions

January 2-20

- Rational Exponents and Properties of Exponents
  - Combining like terms
  - Product Rule
  - Power Rule
  - Quotient Rule
  - Negative Exponents
  - Zero Exponents
- Exponential Functions
- Exponential Growth and Decay

## Radicals

January 23-February 17

- Simplifying Square Radicals
- Simplifying Cubes
- Simplifying Radicals with Variables
- Adding and Subtracting Radicals
- Multiplying Radicals
- Dividing Radicals
- Dividing Radicals using Conjugates
- Solving Radical equations

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## Polynomials

February 21-March 17

- Classifying Polynomials
- Adding and Subtracting Polynomials
- Multiplying Polynomials
- Multiplying Special Cases
- Dividing Polynomial by Monomial

## Factoring

March 20-April 21

- Greatest Common Factor
- Factoring Difference of Squares
- Factoring Trinomials when  $a=1$
- Factoring trinomials with  $a>1$
- Grouping
- Dividing Polynomial by Binomial

## Quadratics

April 24-May 16

- Key features of graphs of Quadratic Functions
- Quadratic Functions in Vertex Form
- Quadratic Functions in Standard Form
- Modeling with Quadratic Functions
- Solving Quadratic Equations using graphs and tables
- Solving quadratic equations by factoring
- The quadratic formula and the discriminant