

Summer Algebra II/Honors Algebra II Curriculum Guide

Chapter One: Expressions, Equations, and Inequalities

- 1.2: Properties of Real Numbers
- 1.3: Algebraic Expressions
- 1.4: Solving Equations
- 1.5: Solving Inequalities
- 1.6: Absolute Value Equations and Inequalities

Chapter Two: Functions, Equations, and Graphs

- 2.1: Relations and Functions
- 2.2: Direct Variation
- 2.3: Linear Functions and Slope Intercept Form
- 2.4: More about Linear Equations
- 2.6: Families of Functions
- 2.7: Absolute Value Functions and Graphs
- 2.8: Two Variable Inequalities

Chapter Three: Linear Systems

- 3.1: Solving Systems Using Tables and Graphs
- 3.2: Solving Systems Algebraically
- 3.3: Systems of Inequalities
- 3.5: Systems with Three Variables

Chapter Four: Quadratic Functions and Equations

- 4.1: Quadratic Functions and Transformations
- 4.2: Standard Form of a Quadratic Function
- 4.3: Modeling with Quadratic Functions
- 4.9: Quadratic Systems
- 4.4: Factoring Quadratic Expressions
- 4.5: Quadratic Equations
- 4.6: Completing the Square
- 4.7: The Quadratic Formula
- 4.8: Complex Numbers

Chapters Five and Six: Polynomial and Radical Functions

- 5.1: Polynomial Functions
- 5.2: Polynomials, Linear Factors, and Zeros
- 5.3: Solving Polynomial Equations
- 5.4: Dividing Polynomials
- 6.1: Roots and Radical Expressions
- 6.2: Multiplying and Dividing Radical Expressions
- 6.3: Binomial Radical Expressions

Chapter Six: Radical Functions and Rational Exponents

- 6.4: Rational Exponents
- 6.5: Solving Square Root and Other Radical Equations
- 6.6: Function Operations
- 6.7: Inverse Relations and Functions
- 6.8: Graphing Radical Functions

Chapter Seven: Exponential and Logarithmic Functions

- 7.2: Properties of Exponential Functions
- 7.3: Logarithmic Functions as Inverses
- 7.4: Properties of Logarithms
- 7.5: Exponential and Logarithmic Equations
- 7.6: Natural Logarithms

Chapter Eight: Rational Functions

- 8.1: Inverse Variation
- 8.2: The Reciprocal Function Family
- 8.4: Rational Expressions
- 8.5: Adding and Subtracting Rational Expressions
- 8.6: Solving Rational Equations

Chapter Ten: Quadratic Relations and Conic Sections

- 10.2: Parabolas
- 10.3: Circles
- 10.4: Ellipses
- 10.5: Hyperbolas (only graphing)
- 10.6: Translating Conic Sections (only graphing)

Chapter Thirteen: Periodic Functions and Trigonometry

- 13.2: Angles and the Unit Circle
- 13.3: Radian Measure
- 13.4: The Sine Functions
- 13.5: The Cosine Functions
- 13.6: The Tangent Function
- 13.8: Reciprocal Trigonometric Functions

Chapter Fourteen: Trigonometric Identities and Equations

- 14.1: Trigonometric Identities
- 14.2: Solving Trigonometric Equations Using Inverses
- 14.3: Right Triangles and Trigonometric Ratios

If time permits:

- 14.4: Areas and the Law of Sines
- 14.5: The Law of Cosines

Chapter Eleven: Probability and Statistics (if time permits)

- 11.1: Permutations and Combinations
- 11.2: Probability
- 11.3: Probability of Multiple Events
- 11.4: Conditional Probability
- 11.5: Analyzing Data
- 11.8: Binomial Distributions

Chapter Nine: Sequences and Series (if time permits)

- 9.1: Mathematical Patterns
- 9.2: Arithmetic Sequences
- 9.3: Geometric Sequences
- 9.4: Arithmetic Series
- 9.5: Geometric Series