

**Algebra II—Curriculum Map 2022—2023**  
**Topics marked with an asterisk are Accel Alg 2**

**Unit 1 Algebra Review (8/12 --8/27)**  
**(Class Opener Focus: Number Word Problems)**

- Properties of Real Numbers
- Algebraic Expressions
- Absolute value/order of operations
- Solve Equations
- Solve/Graph Inequalities
- Absolute Value Equations/Inequalities
- **Unit Review/Test**

**Unit 2 Functions and Relations (8/30 -- 9/17)**  
**(Class Opener Focus: Consecutive Integers)**

**Part 1:**

- Domain/Range w/wo calc
- Calculating Slope (Rate of Change)
  - Parallel lines
  - Perpendicular lines
- Linear Functions
  - Standard Form
  - Slope-Intercept Form
  - General Form (accel)
  - **Unit Review part 1**
  - **UNIT TEST PART 1**

**Part 2: (9/20 -- 10/1)**

- Graphing Lines
  - Tables
  - X- and Y- intercepts
  - Slope—intecept
- Graph Linear Inequalities
- Parent Functions/Transformations
- Line of Regression
- \*Piecewise
- **Unit Review part 2**
- **UNIT TEST PART 2**

**Unit 3 Systems of Equations/Inequalities (10/11 -- 10/26)**  
**(Class opener Focus: Coin Word Problems)**

- Solve Systems of Equations
  - Graphing
  - Substitution
  - Elimination—3 variables (accel only)
- Solve Systems of Inequalities
- Linear Programming
- Real-world Problems
- **Unit Review/Test**

**Unit 4 – Exponents/Radicals(10/27 -- 11/23)**

- Rules
- Scientific Notation
- Simplify Radicals
- Add/Subtract
- Multiply
- Rational
- Conjugates
- Solve Equations
- **Unit Review/Test**

**Unit 5 – Polynomials and Factoring (11/29 -- 12/17)**

- Introduction
- All 4 operations w/Polynomials
- \*Descartes’s Rule of Signs
- End Behavior
- Graph
- **Review/Test**

Factoring:

- Greatest Common Factor
- Grouping
- Difference of Perfect Squares/Perfect Square Trinomials
- Trinomials
- **Unit Review/Test**

**Unit 6 – Complex Numbers (1/3 -- 1/12)**

**(Class Opener Focus: Age Word Problems)**

- Operations
- Conjugates
- **Quiz Review/Quiz**

### **Unit 7 – Solve Quadratic Equations & Inequalities (1/13 -- 1/28)**

- Square Root Method
- Factoring
- Discriminant
- Quadratic Formula
- \*Solve linear/quadratic systems of equations
- \*Quadratic Inequalities (split points)
- \*Write quadratic equation given vertex/point or 3 points
- **Unit Review/Test**

### **Unit 8 – Graph Quadratic Functions and Inequalities (1/31 -- 2/18)**

Graph Absolute Value Inequalities

- Parabolas
  - Standard
  - Vertex
  - Transformations
- Quadratic Inequalities
- Real World Problems
- **Unit ReviewTest**

### **Mini-Unit (2/22 -- 3/4)**

- Direct, Joint, and Inverse Variation
- Word Problems
- **Unit review/Test**

### **Unit 9 – Logarithmic and Exponential Functions (3/7 -- 4/1)**

#### **(Compound Interest)**

- Graph Exponential Functions
- Solve Exponential Equations
- Intro to Logarithms: Convert Exp/Log Forms
- Base 10 Logs, Evaluate Simple Logs, and Change of Base Formula
- Properties of Logs and Condensing & Expanding Logs
- Graph Logarithmic Functions
- Solve Logarithmic Equations
- Solve Exponential Equations using Logs
- Base e and Natural Logs
- Applications: Growth & Decay/Compound Interest
- **Unit Review/Test**

### **Unit 10 – Sequences and Series (4/11 -- 4/15)**

- Arithmetic Sequences and Series
- Geometric Sequences and Series
- **Unit Review/Test**

### **Unit 11 – Probability (4/18 -- 4/22)**

- Permutations and Combinations
- Theoretical and Experimental Probability
- Conditional Probability
- Normal Distribution Curve/Measures of Center/Variation
- Z-Scores

### **Unit 12 – Trigonometry (4/25 -- 5/6)**

- Pythagorean Theorem
- Sine, Cosine, and Tangent
- Solving Triangles
- Law of Sines
- Law of Cosines
- Area of Triangle
- **Review/Test**

#### **Part 2**

- Graph Trigonometric Functions
- Translate Functions
- Fundamental Trig Identities
- Solve Trigonometric Equations

### **Unit 13 – Matrices(5/9 -- 5/13)**

#### **(Class Opener Focus: Per-Cent and Percentage Problems)**

- Emphasize vocabulary
- Operations including Scalar multiplication
- Matrix Equations
- Determinants ( 3x3 with Calc for regular algebra)
- Find Area using matrices
- \*Inverse matrices
- Solving Systems
- **Unit Review/Test**

### **Unit 14 – Rational Expressions and Equations (5/16 -- 5/20)**

- All 4 operations
- Composite and Inverse Functions
- Graph (Holes, Vertical, Horizontal, Slant Asymptotes)
- **Unit Review/Test**
- **Mini-Unit**
- Direct, Joint, and Inverse Variation
- Word Problems
- **Unit review/Test**