

Algebra II Year at a Glance

1 st Six Weeks
<u>Chapter 0 Preparing for Advanced Algebra</u> <ul style="list-style-type: none">• Representing Functions• FOIL• Factoring Polynomials• Counting Techniques• Probabilities• Congruent & Similar Figures• Pythagorean Theorem
<u>Chapter 1 Equations & Inequalities</u> <ul style="list-style-type: none">• Expressions & Formulas• Properties of Real Numbers• Solving Equations• Solving Absolute Value Equations• Solving Inequalities• Solving Compound & Absolute Value Inequalities
<u>Chapter 2 Linear Relations & Functions</u> <ul style="list-style-type: none">• Relations & Functions• Linear Relations & Functions• Rate of Change & Slope• Writing Linear Equations• Scatter Plots & Lines of Regression• Special Functions• Parent Functions & Transformations• Graphing Linear & Absolute Value Inequalities
2 nd Six Weeks
<u>Chapter 3 Systems & Equations</u> <ul style="list-style-type: none">• Solving Systems of Equations• Solving Systems of Inequalities by Graphing• Optimization with Linear Programming• Systems of Equations in 3 Variables• Operations with Matrices• Multiplying Matrices• Solving Systems of Equations Using Cramer's Rule• Solving Systems of Equations Using Inverse Matrices
<u>Chapter 4 Quadratic Functions & Relations</u> <ul style="list-style-type: none">• Graphing Quadratic Functions• Solving Quadratic Equations by Graphing• Solving Quadratic Equations by Factoring• Complex Numbers• Completing the Square• The Quadratic Formula & The Discriminant• Transformations of Quadratic• Quadratic Inequalities

3 rd Six Weeks
<u>Chapter 5 Polynomials & Polynomial Functions</u> <ul style="list-style-type: none">• Operations with Polynomials• Dividing Polynomials• Polynomial Functions• Analyzing Graphs of Polynomial Functions• Solving Polynomial Equations• The Remainder & Factor Theorems• Roots & Zeros• Rational Root Theorem
<u>Chapter 6 Inverses & Radical Functions & Relations</u> <ul style="list-style-type: none">• Operations on Functions• Inverse Functions & Relations• Square Root Functions & Inequalities• n^{th} Roots• Operations with Radical Expressions• Rational Exponents• Solving Radical Equations & Inequalities
4 th Six Weeks
<u>Chapter 7 Exponential & Logarithmic Functions & Relations</u> <ul style="list-style-type: none">• Graphing Exponential Functions• Solving Exponential Equations & Inequalities• Logarithms & Logarithmic Functions• Solving Logarithmic Equations & Inequalities• Properties of Logarithms• Common Logarithms• Base e & Natural Logarithms• Using Exponential & Logarithmic Functions
<u>Chapter 8 Rational Functions & Relations</u> <ul style="list-style-type: none">• Multiplying & Dividing Rational Expressions• Adding & Subtracting Rational Expressions• Graphing Reciprocal Functions• Graphing Rational Functions• Variation Functions• Solving Rational Equations & Inequalities

Algebra II Year at a Glance

5th Six Weeks

Chapter 9 Conic Sections

- Midpoint & Distance Formulas
- Parabolas
- Circles
- Ellipses
- Hyperbolas
- Identifying Conic Sections
- Solving Linear-Nonlinear Systems

Chapter 10 Sequences & Series

- Sequences as Functions
- Arithmetic Sequences & Series
- Geometric Sequences & Series
- Infinite Geometric Sequences & Series
- Recursion & Iteration
- The Binomial Theorem
- Proof by Mathematical Induction

Chapter 11 Statistics & Probability

- Designing A Study
- Distributions of Data
- Probability Distributions
- The Binomial Distribution
- The Normal Distribution
- Confidence Intervals & Hypothesis Testing

6th Six Weeks

Chapter 12 Trigonometric Functions

- Trigonometric Functions in Right Triangles
- Angles & Angle Measure
- Trigonometric Functions of General Angles
- Law of Sines
- Law of Cosines
- Circular & Periodic Functions
- Graphing Trigonometric Functions
- Translations of Trigonometric Graphs
- Inverse Trigonometric Functions

Chapter 13 Trigonometric Identities & Functions

- Trigonometric Identities
- Verifying Trigonometric Identities
- Sum & Difference of Angle Identities
- Double-Angle & Half-Angle Identities
- Solving Trigonometric Equations