

# Algebra 2 Curriculum



Sessions 1 to 144



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## Sessions 1 - 10

### Linear Functions

- Parent Functions and Transformations
- Transformations of Linear and Absolute Value Functions
- Modeling With Linear Functions
- Solving Linear Systems
- Checkpoint Assessment-1** 

## Sessions 11 - 18

### Quadratic Functions

- Transformations of Quadratic Functions
- Characteristics of Quadratic Functions
- Focus of a Parabola
- Modeling with Quadratic Functions
- Checkpoint Assessment- 2** 

## Sessions 19 - 32

### Quadratic Equations and Complex Numbers

- Solving Quadratic Equations
- Complex Numbers
- Completing the Square
- Using the Quadratic Formula
- Solving Nonlinear Systems
- Quadratic Inequalities
- Checkpoint Assessment-3** 

## Sessions 33 - 54

### Polynomial Functions

- Graphing Polynomial Functions
- Adding, Subtracting, and Multiplying Polynomials
- Dividing Polynomials
- Factoring Polynomials
- Solving Polynomial Equations
- The Fundamental Theorem of Algebra
- Transformations of Polynomial Functions
- Analyzing Graphs of Polynomial Functions
- Modeling with Polynomial Functions
- Checkpoint Assessment-4** 

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## Sessions 55 - 68

### Rational Exponents and Radical Functions

- $n$ th Roots and Rational Exponents
- Properties of Rational Exponents and Radicals
- Graphing Radical Functions
- Solving Radical Equations and Inequalities
- Performing Function Operations
- Inverse of a Function
- **Checkpoint Assessment- 5** 

## Sessions 69 - 82

### Exponential and Logarithmic Functions

- Exponential Growth and Decay Functions
- The Natural Base  $e$
- Logarithms and Logarithmic Functions
- Transformations of Exponential and Logarithmic Functions
- Properties of Logarithms
- Solving Exponential and Logarithmic Equations
- Modeling with Exponential and Logarithmic
- **Checkpoint Assessment- 6** 

## Sessions 83 - 90

### Rational Functions

- Inverse Variation
- Graphing Rational Functions
- Multiplying and Dividing Rational Expressions
- Adding and Subtracting Rational Expressions
- Solving Rational Equations
- **Checkpoint Assessment- 7** 

## Sessions 91 - 104

### Sequences and Series

- Defining and Using Sequences and Series
- Analyzing Arithmetic Sequences and Series
- Analyzing Geometric Sequences and Series
- Finding Sums of Infinite Geometric Series
- Using Recursive Rules with Sequences
- **Checkpoint Assessment- 8** 

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## Sessions 105 - 124

### Trigonometric Ratios and Functions

- Right Angle Trigonometry
- Angles and Radian Measure
- Trigonometric Functions of Any Angle
- Graphing Sine and Cosine Functions
- Graphing Other Trigonometric Functions
- Modeling with Trigonometric Functions
- Using Trigonometric Identities
- Using Sum and Difference Formulas
- **Checkpoint Assessment- 9** 

## Sessions 125 - 138



### Probability

- Sample Spaces and Probability
- Independent and Dependent Events
- Two-Way Tables and Probability
- Probability of Disjoint and Overlapping Events
- Permutations and Combinations
- Binomial Distributions
- **Checkpoint Assessment- 10** 

## Sessions 139 - 144



### Data Analysis and Statistics

- Using Normal Distributions
- Populations, Samples, and Hypotheses
- Collecting Data
- Experimental Design
- Making Inferences from Sample Surveys
- Making Inferences from Experiments
- **Checkpoint Assessment- 11** 