

Algebra 1 Curriculum



Sessions 1 to 144



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Sessions 1 - 12



Solving Linear Equations

- Solving Simple Equations
- Solving Multi-Step Equations
- Solving Equations with Variables on Both Sides
- Solving Absolute Value Equations
- Rewriting Equations and Formulas

Checkpoint Assessment-1 

Sessions 13 - 24



Solving Linear Inequalities

- Writing and Graphing Inequalities
- Solving Inequalities Using Addition or Subtraction
- Solving Inequalities Using Multiplication or Division
- Solving Multi-Step Inequalities
- Solving Compound Inequalities
- Solving Absolute Value Inequalities

Checkpoint Assessment- 2 

Sessions 25 - 40



Graphing Linear Functions

- Functions
- Linear Functions
- Solving Inequalities Using Multiplication or Division
- Function Notation
- Graphing Linear Equations in Standard Form
- Graphing Linear Equations in Slope-Intercept Form
- Transformations of Graphs of Linear Functions
- Graphing Absolute Value Functions

Checkpoint Assessment-3 

Sessions 41 - 55



Writing Linear Functions

- Writing Equations in Slope-Intercept Form
- Writing Equations in Point-Slope Form
- Writing Equations of Parallel and Perpendicular Lines
- Scatter Plots and Lines of Fit
- Analyzing Lines of Fit
- Arithmetic Sequences
- Piecewise Functions

Checkpoint Assessment-4 

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Sessions 56 - 60

Solving Systems of Linear Equations

- Solving Systems of Linear Equations by Graphing
- Solving Systems of Linear Equations by Substitution
- Solving Systems of Linear Equations by Elimination
- Solving Special Systems of Linear Equations
- Graphing Linear Inequalities in Two Variables
- Systems of Linear Inequalities
- Checkpoint Assessment- 5** 

Sessions 61 - 68

Exponential Functions and Sequences

- Properties of Exponents
- Radicals and Rational Exponents
- Exponential Functions
- Exponential Growth and Decay
- Solving Exponential Equations
- Geometric Sequences
- Recursively Defined Sequences
- Checkpoint Assessment- 6** 

Sessions 69 - 72

Polynomial Equations and Factoring

- Adding and Subtracting Polynomials
- Multiplying Polynomials
- Special Products of Polynomials
- Solving Polynomial Equations in Factored Form
- Factoring $x^2 + bx + c$
- Factoring $ax^2 + bx + c$
- Factoring Special Products
- Factoring Polynomials Completely
- Checkpoint Assessment- 7** 

Sessions 73 - 84

Graphing Quadratic Functions

- Graphing $f(x) = ax^2$
- Graphing $f(x) = ax^2 + c$
- Graphing $f(x) = ax^2 + bx + c$
- Graphing $f(x) = a(x - h)^2 + k$
- Using Intercept Form
- Comparing Linear, Exponential, and Quadratic Functions
- Checkpoint Assessment- 8** 

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Sessions 85 - 96

Solving Quadratic Equations

- Properties of Radicals
- Solving Quadratic Equations by Graphing
- Solving Quadratic Equations Using Square Roots
- Solving Quadratic Equations by Completing the Square
- Solving Quadratic Equations Using the Quadratic Formula
- Solving Nonlinear Systems of Equations
- **Checkpoint Assessment- 9** 

Sessions 97 - 102

Radical Functions and Equations

- Graphing Square Root Functions
- Graphing Cube Root Functions
- Solving Radical Equations
- Inverse of a Function
- **Checkpoint Assessment- 10** 

Sessions 103 - 110

Data Analysis and Displays

- Measures of Center and Variation
- Box-and-Whisker Plots
- Shapes of Distribution
- Two-Way Tables
- Choosing a Data Display
- **Checkpoint Assessment- 11** 

Sessions 111 - 125

Vedic Math

- Multiplication Vertically and Crosswise(2D X 2D, 3D X 3D)
- Multiplication by 9, 99, 999, and so on
- Quick algebraic multiplication
- Multiplication trick of numbers just above 100
- Multiplication trick of numbers just below 100
- Finding Squares
- Finding cubes of numbers just near 10 and 100
- Magic Multiplication
- Square root of perfect squares by observation method
- Finding the day of any date in 500 years
- Division by 11 using subtraction
- Fractions
- Easiest way to find HCF
- Finding L.C.M.
- **Checkpoint Assessment- 12** 

Sessions 126 - 144

Logical Reasoning/Mental Aptitude

- Verbal & Non-Verbal Series
- Verbal & Non-Verbal Analogy
- Verbal & Non-Verbal Classification
- Blood Relations
- Logical Venn Diagrams
- Seating Arrangement
- Dice
- Analytical Reasoning
- Syllogism
- Binary Logic
- Seating Arrangement
- Mirror & Water Images
- Paper Folding & Paper Cutting
- Figure Matrix & Grouping of Identical Figures
- Figure Formation, Figure Completion & Embedded Figures
- **Checkpoint Assessment- 13** 