

One-on-One Peak Math Course Syllabus Intro to Algebra

Course description: A deep exploration into algebra helps students become more focused in their math study. This foundation is not only essential for students to excel in their current math classes. It's also preparation for the harder math that students will encounter in their more advanced math classes later in high school.

Session 1 – Prealgebra Review

Numbers	Order of Operations
Commutative Property	Distribution & Factoring
Equations	Exponents
Fractional Exponents	Radicals

Session 2 – Algebraic Expressions

Expressions
Distribution & Factoring
Fractions

Session 3 – One-Variable Linear Equations

Solving Equations
Word Problems

Session 4 – More Variables

Evaluating Multi-Variable Expressions
Distribution & Factoring
Fractions

Session 5 – Multi-Variable Equations

Systems of Equations
Substitution
Elimination

Session 6 – Ratios & Percents

Ratio Problems
Conversion Factors

Session 7 – Proportions

Direct Proportion
Inverse Proportion
Joint Proportion

Session 8 – Review

Session 9 – Graphing Lines

Number Lines & Cartesian Plane
Graphing Coordinates
Slope & Midpoint

Session 10 – Graphing Lines

Point-Slope Form	Standard Form
$y = mx + b$	Parametrization
Parallel Lines	Perpendicular Lines

Session 11 – Inequalities

Comparison of Fractions
Interval Notation
Graphing Inequalities
Optimization

Session 12 – Quadratic Equations

$ax^2 + bx + c = 0$
FOIL
Factoring Quadratics

Session 13 – Quadratic Equations

Sum of Roots
Product of Roots
Applications of Quadratics

Session 14 – Factorization

Squares of Binomials
Difference of Squares

Session 15 – Factorization

Sum of Cubes
Difference of Cubes
Rationalizing Denominators
Factoring Strategies

Session 16 – Review & Preview of Algebra II