

PEAK MATH | SYLLABUS



INTERMEDIATE ALGEBRA – PART 1

Session 1: Solving Equations

- Isolation
- Substitution
- Elimination
- Systems of Linear Equations
Linear Combination,
Dependent System
Independent System

Session 2: Functions

- Domain & Range
- Graphing Functions
- Composition
- Inverse Functions

Session 3: Complex Numbers

- Imaginary & Complex Numbers
- Conjugate Pair
- Complex Plain
- Real & Imaginary Parts

Session 4: Quadratics

- Factoring Quadratics
- Relating Roots & Coefficients
- Completing the Square
- Discriminant
- Quadratic Inequalities

Session 5: Conic Sections

- Parabola
- Circle
- Ellipse
- Hyperbola

Session 6: Review

Session 7: Polynomial Division

- Synthetic Division
- Remainder Theorem
- Factor Theorem

Session 8: Integer & Rational Roots

- Integer Roots
- Rational Roots
- Bounds
- Graphing and the Fundamental Theorem of Algebra

Session 9: Polynomial Roots

- Irrational Roots
- Nonreal Roots

Session 10: Vieta's Formulas

- Using Roots to Make Equations

Session 11: Multivariable Polynomials

- Grouping
- Sums & Difference of Powers
- The Factor Theorem of Multivariable Polynomials

Session 12: Review