PEAK MATH | SYLLABUS

SUMMIT EDUCATIONAL GROUP

INTERMEDIATE ALGEBRA – PART 2

Session 13: Sequences & Series
- Arithmetic Sequences
- Arithmetic Series
- Geometric Sequences
- Geometric Series

Session 14: Advanced Sequences & Series
- Sequence Notation
- Summation Notation
- Product Notation
- Nested Sums

Session 15: Identities, Manipulations & Induction
- Brute Force
- Ratios
- Induction
- Binomial Theorem

Session 16: Inequalities
- Manipulating Inequalities
- The Trivial Inequality
- AM-GM Inequality with Two or More Variables
- The Cauchy-Shwarz Inequality
- Maxima & Minima

Session 17: Exponents, Logarithms, & Radicals
- Exponential Functions
- Logarithmic Identities
- Logs & Exponents
- Natural Logarithms Exponential Decay
- Raising Radicals to Powers
- Evaluating Expressions with Radicals
- Radical Conjugates

Session 18: Review

Session 19: Functions
- Rational Functions
- Even & Odd Functions
- Monotonic Functions

Session 20: Functions
- Piecewise Functions
- Absolute Value
- Floor & Cieling

Session 21: Sequences & Series
- Algebra of Recursive Sequences
- Telescoping
- Sums of Polynomial Series
- Arithmetic-Geometric Series
- Finite Differences

Session 22: Inequalities
- Mean Inequality Chain
- The Rearrangement Inequality

Session 23: Functional Equations & Advanced Strategies
- Finding Values
- Finding Functions with Substitution
- Separation
- Cyclic Functions
- Symmetry
- Constructing Polynomials from Roots
- Common Divisors

Session 24: Review