

# AMC 10

## Custom program

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48 hours



### Algebra



### Combinatorics



### Geometry



### Number Theory



# Algebra

13 hours

Lesson	Topics
Lesson 1	System of linear equation revisited
Lesson 2	Basic of Functions, Graph of function
Lesson 3	Composition of Functions
Lesson 4	Quadratics
Lesson 5	Quadratic Inequality
Lesson 6	Polynomials, Operation on Polynomial , Remainder Theorem
Lesson 7	Polynomial Roots of Unity
Lesson 8	Polynomial Root 2, Vieta's Theorem
Lesson 9	Inequality Day - 1, (A.M, G.M)
Lesson 10	Sequence and Series 1, (A.P, G.P)
Lesson 11	Sequence and Series 2, (Telescoping Sum, Polynomial Series)
Lesson 12	Exponent and Logarithms
Lesson 13	Trigonometric Functions

# Combinatorics

11 hours

Lesson	Topics
Lesson 1	Basic counting principles, Permutation, Combination
Lesson 2	Counting with repeated objects
Lesson 3	Probability
Lesson 4	Pascal's triangle and Binomial
Lesson 5	Sets and Operation on Sets
Lesson 6	Principle of Inclusion and Exclusion with 2,3 sets
Lesson 7	Constructive Counting
Lesson 8	Bijection Principle, 1-1 correspondence
Lesson 9	Pigeonhole Principle
Lesson 10	Recursion
Lesson 11	Combinatorial Identities

# Geometry

13 hours

Lesson	Topics
Lesson 1	Properties of Triangle
Lesson 2	Congruent Triangles
Lesson 3	Similarity of Triangles
Lesson 4	Right Triangles
Lesson 5	Pythagoras Theorem
Lesson 6	Triangular Inequality
Lesson 7	Problem Related Area, Perimeter of Triangle (Heron's Formula)
Lesson 8	Properties of Circle
Lesson 9	Tangent to circle
Lesson 10	Cyclic Quadilaterals
Lesson 11	Problem related to area, perimeter of Cicle.
Lesson 12	Area, Perimeter of some Polygon
Lesson 13	Area, Volume of some 3D Diagrams

# Number Theory

12 hours

Lesson	Topics
Lesson 1	Prime factorization and divisors problems
Lesson 2	Divisibility
Lesson 3	GCD, LCM, Euclidean Algorithm
Lesson 4	Diophantine Equations
Lesson 5	Prime, Fundamental theorem of arithmetic
Lesson 6	Linear Congruence and Properties
Lesson 7	System of Linear Congruence - Chinese Remainder Th.
Lesson 8	Number Theoretic Function - Number of divisor, sum of divisor
Lesson 9	Greatest integer function
Lesson 10	Euler phi Function
Lesson 11	Number bases
Lesson 12	Base number Arithmetic



# Thank You

Passion for Mathematical Science

Let us know if you need more information.



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