

AMC 8 Preparation.

Total 100 hours preparation lesson. From ZERO to HERO.

Mastering AMC 8 book.

Combinatorics

1	Permutations	.....
1.1	Permutations Definition	.....
1.2	Factorials	.....
1.3	Permutations Fundamentals	.....
1.4	Digit Permutations	.....
1.5	Circular Arrangements	.....
1.6	Practice Problems	.....
2	Combinations	.....
2.1	Combinations Fundamentals	.....
2.2	Binomial Identity	.....
2.3	Tricky Combinations Examples	.....
2.4	Practice Problems	.....
3	Word Rearrangements	.....
3.1	Word Rearrangements Fundamentals	.....
3.2	Word Rearrangements with Constraints	.....
3.3	Practice Problems	.....
4	Probability	.....
4.1	Probability Fundamentals	.....
4.2	Distinguishability	.....
4.3	Casework in Probability	.....
4.4	Probability of Independent Events	.....
4.5	Probability of Dependent Events	.....
4.6	Dependent or Independent?	.....
4.7	Practice Problems	.....
5	Casework	.....
5.1	Casework Fundamentals	.....
5.2	Harder Casework Examples	.....
5.3	Practice Problems	.....
6	Complementary Counting	.....
6.1	Complementary Counting Fundamentals	.....
6.2	Complementary Counting with Casework	.....
6.3	Practice Problems	.....
7	Principle of Inclusion Exclusion (PIE)	.....
7.1	PIE Strategies	.....
7.2	PIE for 2 Events	.....
7.3	PIE for 3 Events	.....
7.4	PIE for any Number of Events (Optional)	.....
7.5	Practice Problems	.....
8	Stars and Bars	.....
8.1	Stars and Bars Fundamentals	.....
8.2	Stars and Bars with Constraints	.....
8.3	Practice Problems	.....
9	Geometric Counting	.....
9.1	Geometric Counting Fundamentals	.....
9.2	Number of Squares in Grid	.....
9.3	Number of Rectangles in Grid	.....
9.4	Path Counting	.....
9.5	Practice Problems	.....

10 Recursion	.....
10.1 Recursion Fundamentals	.....
10.2 Recursion with Constraints	.....
10.3 Probability Recursions	.....
10.4 Practice Problems	.....

Algebra

11 Ratios and Percentages	.....
11.1 Ratios Fundamentals	.....
11.2 Rate and Work	.....

11.3 Practice Problems
------------------------	-------

12 Algebraic Manipulations and Equations	.....
12.1 System of Equations Basics	.....
12.2 Advanced Equation Solving Techniques	.....
12.3 Word Problems	.....
12.4 Practice Problems	.....

13 Speed, Distance, and Time	.....
13.1 Speed, Distance, and Time	.....
13.2 Practice Problems	.....

14 Sequences and Series	.....
14.1 Arithmetic Sequences	.....
14.2 Special Series	.....
14.3 Geometric Sequences	.....
14.4 Arithmetico-Geometric Sequence	.....
14.5 Practice Problems	.....

15 Mean, Median, Mode	.....
15.1 Mean, Median, Mode Fundamentals	.....
15.2 Mean Median Mode Conditions Examples	.....
15.3 Practice Problems	.....

16 Telescoping	.....
16.1 Telescoping	.....
16.2 Telescoping Basics	.....
16.3 Telescoping Sums	.....
16.4 Telescoping Products	.....
16.5 Telescoping Equation	.....
16.6 Practice Problems	.....

Number Theory

17 Primes and Divisibility	.....
17.1 Primes	.....
17.2 Divisibility Rules	.....
17.3 Prime Factorization	.....
17.4 Legendre's Formula	.....
17.5 Practice Problems	.....

18 Factors	.....
18.1 Number of Factors	.....
18.2 Sum of Factors	.....

18.3	Product of Factors	.....
18.4	Practice Problems	.....
19	GCD and LCM	.....
19.1	GCD and LCM Fundamentals	.....
19.2	GCD and LCM Product	.....
19.3	More GCD/LCM Properties	.....
19.4	Euclidean Algorithm	.....
19.5	Practice Problems	.....
20	Modular Arithmetic	.....
20.1	Modular Arithmetic Fundamentals	.....
20.2	Product Rule	.....
20.3	Exponent Rule	.....
20.4	Multiple Modular Congruences	.....
20.5	Digit Cycles	.....
20.6	Practice Problems	.....
21	Diophantine Equations	.....
21.1	Quadratic Factorizations	.....
21.2	Simon's Favorite Factoring Trick	.....
21.3	Interesting Examples	.....
21.4	Cubic Factorizations (Optional)	.....
21.5	Practice Problems	.....
22	Miscellaneous Number Theory	.....
22.1	Palindromes	.....
22.2	Money Problems	.....
22.3	Integer Operations	.....
22.4	Chicken McNugget Theorem	.....
22.5	Practice Problems	.....

Geometry

23	Angle Chasing	.....
23.1	Angle Chasing Basics	.....
23.2	Inscribed Angles	.....
23.3	Polygons	.....
23.4	Advanced Circle Angle Chasing Theorems (Optional)	.....
23.5	Practice Problems	.....
24	Triangles	.....
24.1	Area of a Triangle	.....

24.2	Special Triangles	
24.2.1	Equilateral Triangle	
24.2.2	45-45-90 Triangle	
24.2.3	30-60-90 Triangle	
24.2.4	13-14-15 Triangle	
24.3	Pythagorean Theorem	
24.4	Triangle Properties	
24.5	Angle Bisector Theorem	
24.6	Practice Problems	
25	Quadrilaterals	
25.1	Square	
25.2	Rectangle	
25.3	Rhombus	
25.4	Parallelogram	
25.5	Trapezoid	
25.6	Breaking Quadrilaterals into Triangles	
25.7	Practice Problems	
26	Circles	
26.1	Circle Properties	
26.2	Circular Area	
26.3	Length inside Circles	
26.4	Practice Problems	
27	Similar Triangles	
27.1	Congruent Triangles	
27.2	Similar Triangles	
27.3	Practice Problems	
28	Area and Length of Complex Shapes	
28.1	Hexagon	
28.2	Octagon	
28.3	Area of Complex Shapes	
28.4	Length of complex shapes	
28.5	Practice Problems	
29	3D Geometry	
29.1	Cube	
29.2	Prism	
29.3	Pyramid	
29.4	Cylinder	
29.5	Cone	
29.6	Sphere	
29.7	Similar Triangles in 3D	
29.8	Practice Problems	
30	Additional Techniques and Strategies	
30.1	Meta-solving Techniques	
30.2	Silly Mistakes	
30.3	Other Strategies To Maximize Your Score	