

MC15F-2

Introduction to Elementary School Math Competitions Part 2

Session 1: Word Problems & Unknowns

- Converting word problems into mathematical equations
- Solving one-unknown linear equations

Session 2: Sequences-1

- Definition of a sequence
- Solving Mean, median, mode, range problems

Session 3: Prime Numbers & Prime Factorization

- Definition of prime, composite numbers
- Checking if a number is prime
- Factor trees, examples of prime factorization using exponents

Session 4: Angles

- Angles and terminology
- Parallel, perpendicular, and transversal lines
- Angles in a triangle, in a quadrilateral
- Types of triangles and their properties

Session 5: Exam 4 & PIMC Review

- Exam 4 Chapters 13-16
- *Mock exam for PI Math Contest*

Session 6: Time & Travel

- Unit conversions (ounces to pounds, square feet to square yards, etc.)
- Distance = Rate x Time
- Average speed, relative speed

Session 7: Divisibility Rules and Remainder Problems

- Divisibility rules for 2, 3, 4, 5, 6, 8, 9, 10, and 11
- Solving remainder problems using division algorithm

Session 8: Gauss Sums

- Definition of an arithmetic sequence
- Sum of the terms of an arithmetic sequence

Session 9: Length

- Perimeter of polygons
- Pythagorean theorem
- Circumference of a circle

Session 10: Exam5 & Noetic Review

- Exam 5 Chapters 17-20
- Mock exam for Noetic Learning Mathematics Contest

Session 11: Work Problems

- Word problems involving rates of work/ output
- Similarity between work and $D = R \times T$

Session 12: Sequences-2

- Solving arithmetic sequences problems
- Solving geometric sequences problems

Session 13: Area

- Definition of area and square units
- Area formulas for squares, rectangles, parallelograms, rhombuses
- Area of a triangle
- Area of a circle

Session 14: 3-D Geometry

- Solving surface area problems for 3-D figures
- Solving volume problems for 3-D figures

Session 15: Exam6 & Math League Review

- Exam 6 Chapters 21-24
- Mock exam for The Math League Contest

Session 16: Exam Review AMC 8

- Mock exam for AMC 8
- Solving Practice AMC8 Problems