

IVMO Topic List

The lists are accumulative. At each level topics from previous levels are included. For example, for Intermediate level, all topics in Primary and Junior are relevant.

Primary	Junior	Intermediate	Senior and Open
Four rules of number $+$ $-$ \times \div Four rules of simple fractions $+$ $-$ \times \div Four rules of decimals $+$ $-$ \times \div Divisibility by 2, 4, 8, 5, 10, 3, 6, 9 Digital roots Multiplication and division by 5, 25, 50 Nikhilam multiplication Squaring two-digit numbers ending in 5 Multiplication - the final digits add to 10 Vertically and crosswise multiplication Nikhilam division HCF and LCM by Vertically and crosswise Ratio and Proportion Linear sequences Area and perimeter of simple shapes Primes, squares, and triangular numbers	Four rules of mixed numbers $+$ $-$ \times \div Decimal to fraction conversions Squaring numbers close to a base Use of vinculum (bar numbers) Paravartya division Straight division with 2-digit divisors Percentages Direct and Indirect proportion nth term formulae for linear sequences Linear equations Mean, median, mode Simple rules of indices Area and circumference of a circle Angles in parallel lines Angles in triangles and quadrilaterals Volume and surface area (cuboids)	Converting denominators ending in 9 Conversion of partially recurring decimals Straight division with 3-digit divisors Simultaneous equations Quadratic equations Nth term for quadratic sequences Completing the square Difference of two squares Cubing 2-digit numbers Combined ratios Polynomial division with binomial divisors Polynomial multiplication Factor theorem Indices including fractional and negative Using last digits to check answers Angles in polygons Equation of straight lines Similar areas and volumes	Coefficients in polynomial products Using first and last terms in polynomials Series expansions of binomials Applications of discriminants of quadratics Divisibility using Osculation Logs and Exponential functions Inverse functions Partial fractions Method of differences Product and Quotient rules Chain rule Pythagorean triples Addition and subtraction of angles Geometric problems involving triples Areas of shapes on coordinate axes Integration to find areas Equations of circles

Sutras Involved

All from 9 and the last from 10	Deficiency	By completion and non-completion	First by the first and last by the last
Vertically and crosswise	Transpose and adjust	Particular and general	Product/sum, Sum/product
By one more than the one before	On the flag	Product of means. Product of extremes	Differential calculus
Proportionately	By elimination and retention		Osculation
By addition and subtraction	All the multipliers		
By observation			
By the last digits			