

LOCUS - ONLINE MATHEMATICS OLYMPIAD SYLLABUS / REFERENCE BOOKS

Syllabus

Class 6

Arithmetic of integers, geometry, Basic algebra, logical reasoning

Class 7

Arithmetic of integers, geometry, Basic algebra, factorisation of polynomial, logical reasoning

Class 8

Arithmetic of integers, geometry, Basic algebra, factorisation of polynomial, Number theory, logical reasoning

Class 9

Arithmetic of integers, geometry, Basic algebra, factorisation of polynomial, Number theory, coordinate geometry, system of linear equations, factorisation of polynomials, trigonometry, factorisation of polynomials, logical reasoning

Class 10

Arithmetic of integers, geometry, Basic algebra, factorisation of polynomial, Quadratic equations and expressions, Number theory, coordinate geometry, system of linear equations, factorisation of polynomials, trigonometry, factorisation of polynomials, elementary combinatorics, logical reasoning,

Class 11 & 12

Arithmetic of integers, geometry, quadratic equations and expressions, trigonometry, coordinate geometry, system of linear equations, permutations and combination, factorisation of polynomial, inequalities, elementary combinatorics, probability theory and number theory, finite series and complex numbers and elementary graph theory.

Reference Books:

- Problem Primer for the Olympiads C R Pranesachar, B J Venkatachala and C S Yogananda (Prism Books Pvt. Ltd., Bangalore).
- Challenge and Thrill of Pre-College Mathematics V Krishnamurthy, C R Pranesachar, K N Ranganathan and B J Venkatachala (New Age International Publishers, New Delhi).
- Problem Solving Strategies Arthur Engel (Springer-Verlag, Germany). Edited by K. Bencsath, P. R. Halmos.
- Mathematical Circles Fomin and others (University Press, Hyderabad).
- Inequalities an approach through problems (texts & readings in mathematics), B J Venkatachala (Hindustan Book Agency).

- An Excursion in Mathematics Editors: M R Modak, S A Katre and V V Acharya and V M Sholapurkar (Bhaskaracharya Pratishthana, Pune).
- D. Djukic, V. Jankovic, I. Matic, N. Petrovic : The IMO Compendium 1959-2009, Springer, 2011.
- E.J. Barbeau : Polynomials , Springer-Verlag, 2003.
- Z. Cvetkovski : Inequalities - Theorems, Techniques and Selected Problems , Springer, 2012.
- T. Andreescu, D. Andrica : Complex Numbers from A to ... Z, Birkhauser, Boston, 2005.
- I.F. Sharygin : Problems in Plane Geometry, Imported Pubn, 1988.
- T. Andreescu, Z. Feng : 103 Trigonometry Problems: From the Training of the USA IMO Team, Birkhauser Boston, 2004.
- P.S. Modenov : Problems in Geometry, MIR, Moscow, 1981.
- T. Andreescu, D. Andrica, Z. Feng : 104 Number Theory Problems, Birkhauser, Boston 2006
- W. Sierpinski : Elementary Theory of Numbers, Polski Academic Nauk, Warsaw, 1964.
- G.H. Hardy, E.M. Wright : An Introduction to the Theory of Numbers, Oxford University Press; 5th edition, 1980.