School Connect Online

SCO INTERNATIONAL OLYMPIAD

CLASS 7 MATHS OLYMPIAD SYLLABUS

A comprehensive syllabus guide for students, teachers, schools, and parents

Designed from Class 7 mathematics pathways and aligned with SCO's platform flow for guided preparation, practice, reporting, and future-ready academic growth.

- chapter-wise pathway across integers, fractions, equations, geometry, data, ratios, and solid shapes
- learning outcomes for quick understanding by schools, teachers, students, and parents
- preparation roadmap, assessment framing, and academic enrichment support

Maths	English	Science	Mental Ability	Finance Knowledge
AI	Entrepreneurship	GK	Coding	Life Skills

SCO International Maths Olympiad Class 7 Official Syllabus

Exam Snapshot

Olympiad	SCO International Maths Olympiad
Class	Class 7
Level	Middle school mathematics enrichment
Duration	60 minutes
Question Type	Objective type with reasoning, case-study, and achievers questions
Learning Aim	Build confident problem-solving through number sense, algebraic thinking, geometry, data handling, and application-based reasoning.

Syllabus Purpose

The Class 7 Maths Olympiad syllabus develops abstract reasoning and practical problem-solving. It connects number operations, algebra, geometry, data interpretation, proportional reasoning, and spatial visualization with age-appropriate real-world situations. The syllabus is suitable for schools planning structured preparation, teachers designing chapter-wise practice, and students building readiness for higher-level mathematics.

Chapter-Wise Syllabus and Learning Outcomes

No.	Chapter	Student Learning Focus	Learning Outcomes
1	**Integers**	Operations with positive and negative numbers, number-line thinking, real-life gain-loss contexts.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
2	**Fractions and Decimals**	Operations, comparison, conversion, estimation, and applications in measurement and money.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
3	**Data Handling**	Collection, organization, mean, median, mode, range, simple graphs, and interpretation.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.

No.	Chapter	Student Learning Focus	Learning Outcomes
4	**Simple Equations**	Forming and solving one-variable equations from age, number, and value situations.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
5	**Lines and Angles**	Parallel lines, transversals, complementary/supplementary angles, and angle reasoning.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
6	**The Triangle and its Properties**	Angle sum, exterior angle, medians, altitudes, triangle inequality, and Pythagoras idea.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
7	**Congruence of Triangles**	SSS, SAS, ASA, RHS criteria and their use in geometric proof.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
8	**Comparing Quantities**	Ratio, proportion, percentage, discount, profit-loss, simple interest, and unit rates.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
9	**Rational Numbers**	Representation, ordering, operations, and use of rational numbers in problem solving.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
10	**Practical Geometry**	Construction ideas using ruler, compass, angle measures, and geometric constraints.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
11	**Perimeter and Area**	Perimeter and area of common figures, composite shapes, paths, and circular regions.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
12	**Algebraic Expressions**	Terms, coefficients, like terms, simplification, substitution, and value of expressions.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
13	**Exponents and Powers**	Laws of exponents, powers of integers, scientific notation, and pattern recognition.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.
14	**Symmetry**	Line symmetry, rotational symmetry, and recognizing	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.

No.	Chapter	Student Learning Focus	Learning Outcomes
		symmetry in shapes and designs.	
15	**Visualising Solid Shapes**	Nets, faces, edges, vertices, views of solids, and 3D reasoning.	Students should be able to solve chapter-level problems, explain the method used, and apply the concept in unfamiliar Olympiad-style situations.

Core Skill Areas

- Number sense: integer, fraction, decimal, rational-number and exponent fluency.
- Algebraic thinking: forming expressions and solving one-variable equations.
- Geometry: angle relationships, triangle properties, congruence, practical construction, perimeter and area.
- Data and probability: averages, charts, simple probability, and interpretation of information.
- Applied reasoning: ratio, percentage, profit-loss, discount, interest, rate, and proportion problems.

Suggested Preparation Roadmap

- Begin with number operations and rational numbers to build calculation confidence.
- Move to equations, algebraic expressions, and proportional reasoning for problem solving.
- Study lines, angles, triangles, congruence, perimeter, area, symmetry, and solids with diagrams.
- Practice data-handling and real-life case problems with tables and short scenarios.
- Attempt mixed Olympiad-style practice sets under timed conditions.

Assessment Blueprint

- General Mathematics: concept accuracy and routine applications.
- Reason/Assertion: mathematical reasoning and explanation of properties.
- Case Study: real-life application of arithmetic, geometry, data, and algebra.
- Achievers Section: multi-step reasoning, higher-order thinking, and problem strategy.

For Schools and Teachers

- Use the chapter table to plan weekly practice and revision cycles.
- Encourage students to write short explanations, not only final answers.
- Use diagrams, number lines, tables, and real-life contexts to make concepts visible.
- Track improvement through topic-wise practice, mock papers, and post-test analysis.

For Students and Parents

- Revise formulas through examples rather than memorization alone.
- Practice mental calculations and estimation for speed and accuracy.
- Keep a notebook of common mistakes in signs, units, area formulas, and ratio problems.
- Attempt previous-style papers and review every explanation after practice.

Quick Glossary

Term	Meaning
Integer	A whole number that may be positive, negative, or zero.
Rational Number	A number that can be written as p/q where q is not zero.
Congruence	Exact matching of shape and size.
Expression	A mathematical phrase containing numbers, variables, and operations.
Probability	A measure of how likely an event is to happen.