Class 6 Maths Olympiad Comprehensive Guide

Best Practice Materials for Class 6 Maths Olympiad

Top Recommended Resources:

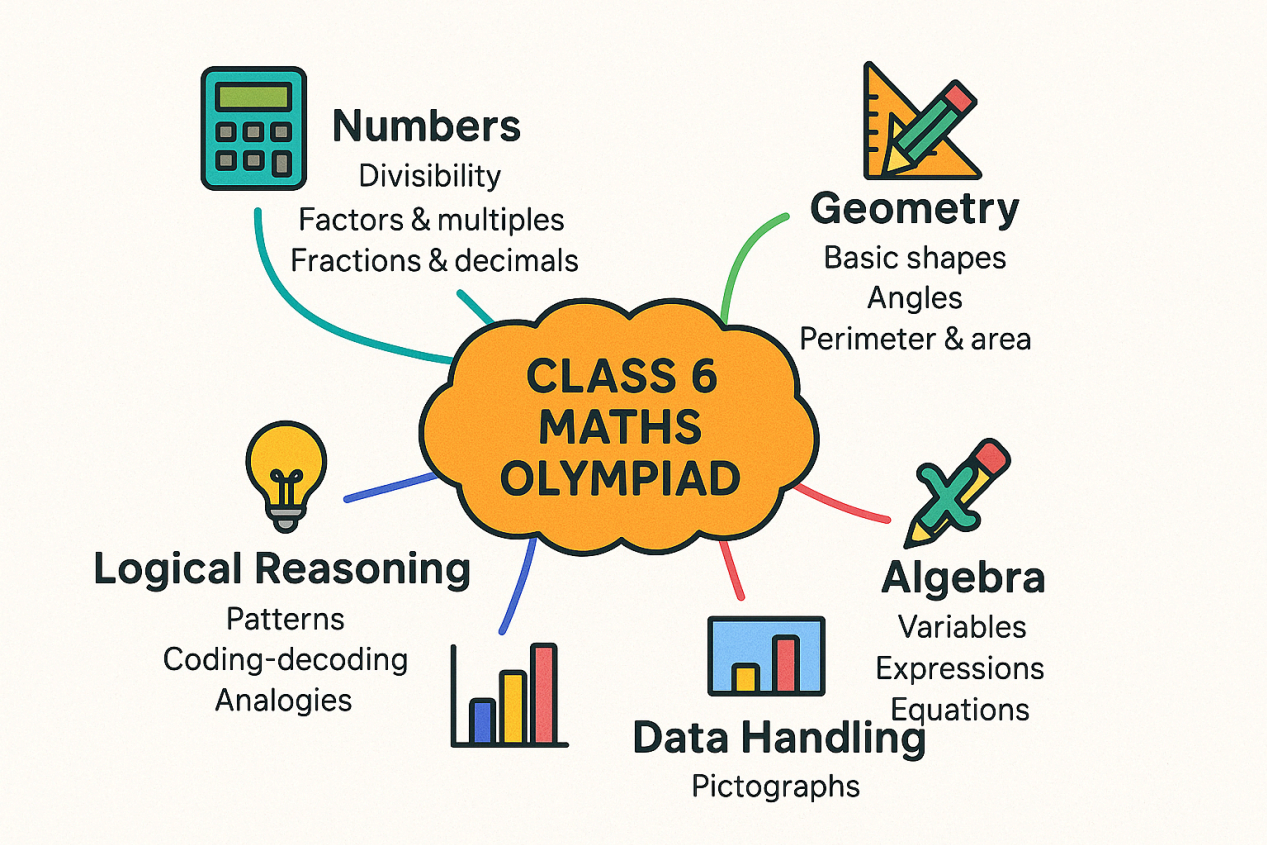
- **MTG Workbook Series**: Features chapter-wise MCQs, Higher Order Thinking Skills (HOTS), previous 5 years' papers, and reasoning workbooks—essential for comprehensive mastery. [1] [2]
- **SOF Official Materials**: Sample papers and previous year question papers with detailed solutions and OMR sheets for exam-like practice. [3] [4] [5]
- **CREST Olympiad Papers**: Free downloadable PDFs with answer keys and explanations. [6]
- **Vedantu & Allen Practice Materials**: Online worksheets, mock tests, and comprehensive study guides. [7] [8] [9]
- **Olympiad Tester**: 25 free sample papers based on previous year questions with answer keys. [10]

Complete Class 6 IMO Exam Pattern

Total Questions: 50 | **Time:** 60 minutes | **Total Marks:** 60

Section	Content	Questions	Marks per Question
Section 1	Logical Reasoning	15	1
Section 2	Mathematical Reasoning	20	1
Section 3	Everyday Mathematics	10	1
Section 4	Achievers Section	5	3

Mind Map for Important Concepts



Class 6 Maths Olympiad comprehensive mind map covering all important topics for revision

Topic-Wise Practice Questions with Previous Year Questions

1. Knowing Our Numbers

Practice Question (Important):

> Write the greatest 6-digit number using digits 2, 4, 7, 8, 5, 3 (no repetitions).

Previous Year Question (Very Important):

> George travels from A to B and Peter travels from B to A. George travels 1/3 the distance, Peter 1/4 the distance. George's distance is 1km more than Peter. What is the total distance?[6]

2. Playing with Numbers

Practice Question (Very Important):

> Find the smallest 3-digit number divisible by both 9 and 12.

Previous Year Question (Very Important):

> Two numbers are in ratio 3:4. If each is increased by 9, the ratio becomes 6:7. Find the original numbers.[6]

3. Whole Numbers

Practice Question (Important):

> What is the result when zero is added to the largest 5-digit number?

Previous Year Question (Very Important):

> If the sum of two numbers is 55 and the HCF and LCM are 5 and 120, find the sum of the reciprocals of these numbers.[6]

4. Basic Geometrical Ideas

Practice Question (Important):

> Draw a triangle with two sides equal and one side different. What type of triangle is this?

Previous Year Question (Very Important):

> In the figure, ∠1 = x and ∠7 = 2x/3. Find ∠5.[6]

5. Understanding Elementary Shapes

Practice Question (Good to Know):

> How many vertices does a rectangular pyramid have?

Previous Year Question (Important):

> Sam has two identical wooden pyramids, each with a square base. He glues the two bases together to make a new bigger wooden shape. How many vertices are there in the new bigger shape?[11]

6. Fractions

Practice Question (Very Important):

> Convert 0.375 to fraction in simplest form.

Previous Year Question (Very Important):

> If 1/10 of a rod is red, 1/20 orange, 1/30 yellow, etc., rest is violet. Violet is 12.08m. Find total length of rod.[6]

7. Decimals

Practice Question (Important):

> Arrange in ascending order: 0.75, 0.705, 0.7, 0.750

Previous Year Question (Very Important):

> Calculate the sum: 1 + 3 + 5 + ... + 97 + 99[11]

8. Data Handling

Practice Question (Important):

> The marks of 5 students are: 40, 15, 20, 25, 10. Find the mode.

Previous Year Question (Important):

> Study the bar graph and match the lists.[6]

9. Mensuration

Practice Question (Very Important):

> Find the area and perimeter of a rectangle with length 12cm and breadth 8cm.

Previous Year Question (Important):

> A few blocks of wood are used to make the shape of a giraffe. Each block measures 1cm × 2cm × 3cm. If 10 blocks are used, what is the volume?[6]

10. Algebra

Practice Question (Very Important):

> If x + 5 = 13, find the value of x.

Previous Year Question (Very Important):

> Let the operation ∗ be defined by a ∗ b = ab - a - b + 2. If 7 ∗ b = 13, what is the value of b?[11]

11. Ratio and Proportion

Practice Question (Very Important):

> Divide 350 into two parts such that they are in ratio 2:5.

Previous Year Question (Important):

> A borrows $800 at the rate of 12% per annum simple interest and B borrows $910 at the rate of 10% per annum simple interest. In how many years will their debts be equal?[6]

12. Symmetry

Practice Question (Good to Know):

> How many lines of symmetry does an equilateral triangle have?

Previous Year Question (Important):

> How many of the given figures have exactly one line of symmetry?[6]

13. Logical Reasoning

Practice Question (Good to Know):

> Find the odd one out: 27, 64, 125, 216, 343

Previous Year Question (Important):

> Which is not a pair of twin primes between 10 and 40?[6]

14. Integers

Practice Question (Important):

> Find the sum: (-15) + (+8) + (-3)

Previous Year Question (Important):

> Amisha runs 7 km towards south, then 9 km towards north. Find her position from initial point.[12]

Detailed Solutions for Evaluation

1. Knowing Our Numbers Solutions

Practice: Arrange digits in descending order: 8,7,5,4,3,2 → **875,432**

Previous Year:
Let total distance = D km. George travels D/3; Peter travels D/4.
Given: D/3 = D/4 + 1
Solving: D/3 - D/4 = 1 → (4D - 3D)/12 = 1 → D/12 = 1 → **D = 12 km**

2. Playing with Numbers Solutions

Practice: LCM of 9 and 12 = 36. Smallest 3-digit multiple: **108**

Previous Year:
Let numbers be 3k and 4k. After increase: (3k+9)/(4k+9) = 6/7
Cross multiply: 7(3k+9) = 6(4k+9) → 21k+63 = 24k+54 → 3k = 9 → k = 3
Original numbers: **9 and 12**

3. Whole Numbers Solutions

Practice: Largest 5-digit number: 99,999. Adding zero: **99,999**

Previous Year:
Let numbers be a, b. Given: a+b = 55, HCF = 5, LCM = 120
Using: a×b = HCF×LCM = 5×120 = 600
Sum of reciprocals: 1/a + 1/b = (a+b)/(a×b) = 55/600 = **11/120**

4. Basic Geometrical Ideas Solutions

Practice: Triangle with two equal sides is an **Isosceles triangle**

Previous Year:
Using properties of parallel lines and angles:
If ∠1 = x and ∠7 = 2x/3, then ∠5 = ∠1 (corresponding angles)
Therefore, **∠5 = x**

5. Understanding Elementary Shapes Solutions

Practice: Rectangular pyramid has **5 vertices**

Previous Year:
Each square pyramid has 5 vertices (4 base + 1 apex)
When bases are joined, shared vertices merge
Total vertices in new shape: 5 + 5 - 4 = **6 vertices**

6. Fractions Solutions

Practice: 0.375 = 375/1000 = **3/8**

Previous Year:
Colored portions: 1/10 + 1/20 + 1/30 + 1/40 + 1/50 + 1/60
Finding common denominator and calculating: Violet portion = 453/600 of total
If violet = 12.08m, then total length = 12.08 × 600/453 ≈ **16m**

7. Decimals Solutions

Practice: Converting: 0.7 < 0.705 < 0.75 = 0.750
Order: **0.7, 0.705, 0.75, 0.750**

Previous Year:
Sum of first n odd numbers = n^2
Here, 1,3,5,...,99 → n = 50 terms
Sum = 50^2 = **2500**

8. Data Handling Solutions

Practice: Given data: 40, 15, 20, 25, 10
Mode = most frequent value = **No mode** (all appear once)

9. Mensuration Solutions

Practice:
Area = 12 × 8 = **96 cm^2**
Perimeter = 2(12 + 8) = **40 cm**

Previous Year:
Volume of one block = 1 × 2 × 3 = 6 cm^3

Total volume = 10 × 6 = **60 cm³**

10. Algebra Solutions

Practice: x + 5 = 13 → x = 13 - 5 = **8**

Previous Year:
7 ∗ b = 7b - 7 - b + 2 = 6b - 5 = 13
6b = 18 → **b = 3**

11. Ratio and Proportion Solutions

Practice:
Let parts be 2x and 5x
2x + 5x = 350 → 7x = 350 → x = 50
Parts: **100 and 250**

Previous Year:
Let time = t years
800(1 + 0.12t) = 910(1 + 0.10t)
800 + 96t = 910 + 91t
5t = 110 → **t = 22 years**

12. Symmetry Solutions

Practice: Equilateral triangle has **3 lines of symmetry**

13. Logical Reasoning Solutions

Practice: All are perfect cubes: 3^3, 4^3, 5^3, 6^3, 7^3
No odd one out - all follow same pattern

Previous Year:
Twin primes between 10-40: (11,13), (17,19), (29,31)
Any option not matching these pairs is the answer

14. Integers Solutions

Practice: (-15) + (+8) + (-3) = -15 + 8 - 3 = **-10**

Previous Year:
South (negative): -7 km
North (positive): +9 km
Final position: -7 + 9 = **+2 km (2 km north of starting point)**

Study Strategy and Tips

Priority Focus:

1. **Very Important Topics** (5 topics): Master these completely
2. **Important Topics** (8 topics): Strong understanding required
3. **Good to Know Topics** (3 topics): Basic familiarity sufficient

Preparation Timeline:

- **3 months before exam**: Complete all topics, focus on Very Important ones
- **1 month before**: Practice previous year papers, identify weak areas
- **1 week before**: Quick revision using mind map, solve sample papers

Practice Schedule:

- Daily: 2-3 practice questions from different topics
- Weekly: 1 complete previous year paper
- Monthly: Assessment and strategy adjustment

This comprehensive guide covers all essential aspects of Class 6 Maths Olympiad preparation with structured practice questions, previous year questions, detailed solutions, and a visual mind map for effective revision.

⁂

1. https://www.cuemath.com/math-olympiad/class-6/
2. https://www.sofolympiadtrainer.com/imo-sample-papers-class-6.jsp
3. https://www.scribd.com/document/638078865/Untitled
4. https://www.indiantalent.org/olympiad-syllabus/imo-maths/class-6
5. https://www.youtube.com/watch?v=uDJ1UD6Z-pE
6. https://www.selfstudys.com/books/cbse-concept-map/english/6th
7. https://byjus.com/olympiad/imo-class-6-syllabus/
8. https://www.vedantu.com/olympiad/imo-maths-olympiad-previous-year-question-paper-class-6
9. https://www.unicusolympiads.com/blog/want-to-learn-better-start-mind-mapping
10. https://sofworld.org/imo/class-6/imo-syllabus/imo-syllabus-class-6
11. https://www.vedantu.com/olympiad/imo-maths-olympiad-sample-question-paper-class-6
12. https://www.selfstudys.com/books/cbse-concept-map/english/6th/mathematics/11706