

Satish Science Academy

International Mathematics Olympiad (IMO) – Grade 6

Sample Paper 4 | Total Questions: 50 | Duration: 60 minutes | Maximum Marks: 60

Instructions: Each question has four options. Choose the correct answer. Sections and marking as per SOF IMO pattern for Class 6.

SECTION 1: Logical Reasoning (15 questions × 1 mark)

Q1. In a code language, each letter is shifted by 2. What is the code for 'OLYMPIAD'?

- A. QNAORKCF#
- B. FCKROANQ
- C. QNAORKCX
- D. QNAORKCF

Q2. Find the next term in the series: 3, 6, 12, 24, ?

- A. 48
- B. 49
- C. 47
- D. 18

Q3. Find the next term in the series: 1, 4, 9, 16, ?

- A. 24
- B. 25
- C. 26
- D. 12

Q4. In a code language, each letter is shifted by 3. What is the code for 'MATH'?

- A. PDWK#
- B. PDWX
- C. PDWK
- D. KWDP

Q5. Find the next term in the series: 2, 3, 4, 5, ?

- A. 8
- B. 9
- C. 4
- D. 10

Q6. Find the next term in the series: 7, 14, 28, 56, ?

- A. 111
- B. 113
- C. 42
- D. 112

Q7. In a code language, each letter is shifted by 2. What is the code for 'RATIO'?

- A. TCVKQ
- B. TCVKQ#
- C. QKVCT
- D. TCVKX

Q8. Choose the odd one out: 81, 64, 125, 49

- A. 125
- B. 49
- C. 81
- D. 64

Q9. In a code language, each letter is shifted by 1. What is the code for 'NUMBER'?

- A. SFCNVO

- B. OVNCFS
- C. OVNCFS#
- D. OVNCFX

Q10. Find the next term in the series: 5, 10, 20, 40, ?

- A. 81
- B. 79
- C. 30
- D. 80

Q11. In a code language, each letter is shifted by 1. What is the code for 'ANGLE'?

- A. BOHMF*
- B. BOHMF
- C. FMHOB
- D. BOHMX

Q12. What is the smaller angle between the hour and minute hands at 3:00?

- A. 89
- B. 105
- C. 75
- D. 90

Q13. Choose the odd one out: 13, 17, 19, 21

- A. 13
- B. 19
- C. 21
- D. 17

Q14. What is the smaller angle between the hour and minute hands at 6:00?

- A. 0
- B. 180
- C. 150
- D. 165

Q15. Choose the odd one out: 24, 36, 48, 35

- A. 24
- B. 48
- C. 35
- D. 36

SECTION 2: Mathematical Reasoning (20 questions × 1 mark)

Q16. Solve for x: $5x + 7 = 97$

- A. 20
- B. 19
- C. 17
- D. 18

Q17. Solve for x: $4x + 7 = 55$

- A. 11
- B. 14
- C. 13
- D. 12

Q18. Find LCM of 12 and 18.

- A. 36
- B. 18
- C. 42
- D. 30

Q19. The average of 6, 8, 10, 12, 14 is ?

- A. 11
- B. 10
- C. 15
- D. 9

Q20. Find HCF (GCD) of 21 and 28.

- A. 7
- B. 6
- C. 8
- D. 9

Q21. $\frac{5}{8}$ of 64 = ?

- A. 44
- B. 4.92
- C. 36
- D. 40

Q22. Find HCF (GCD) of 15 and 20.

- A. 4
- B. 7
- C. 5
- D. 6

Q23. The perimeter of a square is 48 cm. Find the side.

- A. 14
- B. 16
- C. 10
- D. 12

Q24. Simplify: $(18 \times 3) \div 2$

- A. 10.5
- B. 25
- C. 27
- D. 29

Q25. A circle has radius 5 cm. Find its diameter.

- A. 10
- B. 5
- C. 11
- D. 15

Q26. Find HCF (GCD) of 12 and 18.

- A. 8
- B. 5
- C. 6
- D. 7

Q27. Simplify: $(45 \times 5) \div 9$

- A. 5.56
- B. 27
- C. 25
- D. 23

Q28. The perimeter of a square is 64 cm. Find the side.

- A. 20
- B. 14
- C. 16
- D. 18

Q29. Divide 40 in the ratio 3:5. What is the first share?

- A. 12

- B. 15
- C. 5
- D. 25

Q30. The perimeter of a square is 32 cm. Find the side.

- A. 8
- B. 10
- C. 6
- D. 12

Q31. A circle has radius 9 cm. Find its diameter.

- A. 27
- B. 18
- C. 19
- D. 9

Q32. $7/10$ of 64 = ?

- A. 40.8
- B. 3.76
- C. 48.8
- D. 44.8

Q33. 25% of 360 = ?

- A. 85
- B. 95
- C. 90
- D. 108

Q34. $3/4$ of 64 = ?

- A. 52
- B. 9.14
- C. 48
- D. 44

Q35. Find LCM of 21 and 28.

- A. 91
- B. 84
- C. 42
- D. 77

SECTION 3: Everyday Mathematics (10 questions × 1 mark)

Q36. A box has 3 red, 5 blue and 2 green balls. Probability of picking a blue ball is ?

- A. $4/10$
- B. $6/10$
- C. $5/11$
- D. $5/10$

Q37. A train travels 240 km at 60 km/h. Time taken (in hours) is ?

- A. 4.5
- B. 4
- C. 3
- D. 5

Q38. A packet costs ₹25. How many packets can be bought with ₹200?

- A. 9
- B. 10
- C. 8
- D. 7

Q39. A train travels 200 km at 50 km/h. Time taken (in hours) is ?

- A. 4
- B. 4.5
- C. 5
- D. 3

Q40. A packet costs ₹18. How many packets can be bought with ₹90?

- A. 8
- B. 5
- C. 6
- D. 4

Q41. A student scored 75 out of 100. Percentage = ?

- A. 70
- B. 80
- C. 60
- D. 75

Q42. The monthly salary is ₹12000. The annual salary is ?

- A. 144000
- B. 72000
- C. 132000
- D. 120000

Q43. A train travels 180 km at 45 km/h. Time taken (in hours) is ?

- A. 4
- B. 5
- C. 4.5
- D. 3

Q44. A packet costs ₹15. How many packets can be bought with ₹120?

- A. 9
- B. 6
- C. 7
- D. 8

Q45. A car covers 150 km in 3 hours. Speed (km/h) = ?

- A. 60
- B. 40
- C. 55
- D. 50

SECTION 4: Achievers Section (5 questions × 3 marks)

Q46. A rectangle has perimeter 80 cm and length 24 cm. Breadth (cm) = ?

- A. 24
- B. 16
- C. 18
- D. 14

Q47. The sum of two numbers is 60 and their difference is 12. The larger number is ?

- A. 36
- B. 37
- C. 24
- D. 35

Q48. A person spends $\frac{1}{3}$ of salary on rent and $\frac{1}{4}$ on food. If salary is ₹12000, savings = ?

- A. 4500
- B. 4000
- C. 6000
- D. 5000

Q49. A tap fills a tank in 5 h and another empties it in 10 h. If both are opened, time to fill (h) = ?

- A. 8
- B. 11
- C. 10
- D. 12

Q50. The product of two consecutive integers is 272. The integers are ?

- A. 16 and 17
- B. 17 and 18
- C. 14 and 15
- D. 15 and 16

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