Satish Science Academy

International Mathematics Olympiad (IMO) – Grade 6

Sample Paper 1 | 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. Choose the odd one out: 2, 4, 8, 10

- A. 2
- B. 4
- C. 8
- D. 10

Q2. In a code language, each letter is shifted by 2. What is the code for 'MATH'?

- A. JVCO
- B. OCVJ!
- C. OCVX
- D. OCVJ

Q3. In a code language, each letter is shifted by 3. What is the code for 'NUMBER'?

- A. QXPEHX
- B. QXPEHU
- C. UHEPXQ
- D. QXPEHU*

Q4. What is the smaller angle between the hour and minute hands at 3:30?

- A. 60
- B. 75
- C. 90
- D. 105

Q5. Choose the odd one out: 81, 64, 125, 49

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

Q6. What is the smaller angle between the hour and minute hands at 3:00?

- A. 90
- B. 92
- C. 75
- D. 105

Q7. In a code language, each letter is shifted by 1. What is the code for 'ANGLE'?

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

Q8. Find the next term in the series: 1, 4, 9, 16, ?

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

Q9. Choose the odd one out: 13, 17, 19, 21

- A. 19

B. 13
C. 17
D. 21

Q10. Find the next term in the series: 3, 6, 12, 24, ?

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

Q11. Find the next term in the series: 7, 14, 28, 56, ?

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

Q12. In a code language, each letter is shifted by 2. What is the code for 'OLYMPIAD'?

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

Q13. Find the next term in the series: 5, 10, 20, 40, ?

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

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

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

Q15. Find the next term in the series: 2, 3, 4, 5, ?

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

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

Q16. Solve for x: $2x + 3 = 21$

A. 9
B. 11
C. 8
D. 10

Q17. Simplify: $(25 \times 4) \div 10$

A. 10
B. 2.9
C. 8
D. 12

Q18. Find HCF (GCD) of 21 and 28.

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

Q19. Find area of a rectangle with length 12 cm and breadth 5 cm.

A. 60
B. 34
C. 65
D. 55

Q20. Simplify: (18 × 3) ÷ 2

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

Q21. The perimeter of a square is 32 cm. Find the side.

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

Q22. Divide ■72 in the ratio 3:5. What is the first share?

A. 17
B. 9
C. 27
D. 37

Q23. The average of 20, 25, 30 is ?

A. 24
B. 27
C. 26
D. 25

Q24. Solve for x: 5x + 3 = 78

A. 17
B. 15
C. 14
D. 16

Q25. Solve for x: 3x + 5 = 41

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

Q26. Find area of a rectangle with length 10 cm and breadth 6 cm.

A. 55
B. 32
C. 60
D. 65

Q27. A circle has radius 9 cm. Find its diameter.

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

Q28. 3/4 of 64 = ?

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

Q29. Find HCF (GCD) of 12 and 18.

A. 8

B. 6
C. 5
D. 7

Q30. Divide ■55 in the ratio 4:7. What is the first share?

 A. 20
 B. 5
 C. 10
 D. 30

Q31. The perimeter of a square is 64 cm. Find the side.

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

Q32. Solve for x: 4x + 9 = 81

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

Q33. Find HCF (GCD) of 18 and 24.

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

Q34. 5/8 of 64 = ?

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

Q35. A circle has radius 7 cm. Find its diameter.

 A. 14
 B. 15
 C. 7
 D. 21

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

Q36. A box has 4 red, 3 blue and 3 green balls. Probability of picking a red ball is ?

 A. 3/10
 B. 5/10
 C. 4/10
 D. 4/11

Q37. A box has 3 red, 5 blue and 2 green balls. Probability of picking a blue ball is ?

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

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

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

Q39. Convert 3.2 m to cm.

A. 32
B. 160
C. 3200
D. 320

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

A. 6
B. 5
C. 3
D. 4

Q41. A student scored 180 out of 200. Percentage = ?

A. 85
B. 50
C. 95
D. 90

Q42. A box has 5 red, 4 blue and 1 green balls. Probability of picking a green ball is ?

A. 1/11
B. 1/10
C. 2/10
D. 0/10

Q43. A car covers 180 km in 4 hours. Speed (km/h) = ?

A. 45
B. 55
C. 50
D. 35

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

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

Q45. The monthly salary is ■12000. The annual salary is ?

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

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. A tap fills a tank in 5 h and another empties it in 10 h. If both are opened, time to fill (h) = ?
A. 12
B. 10
C. 11
D. 8

Q48. A tap fills a tank in 6 h and another empties it in 8 h. If both are opened, time to fill (h) = ?
A. 24
B. 22
C. 25
D. 26

Q49. The sum of two numbers is 45 and their difference is 9. The larger number is ?

    A. 28
    B. 26
    C. 27
    D. 18

Q50. A person spends 1/3 of salary on rent and 1/4 on food. If salary is ■18000, savings = ?

    A. 8500
    B. 6500
    C. 7000
    D. 7500