IQNexus Mathematics Olympiad (IQMO)

Sample Paper | Class 8 | Session: 2024-25

Challenging Minds, Building Futures

Instructions:

- **Total Questions:** 30
- **Total Marks:** 100
- **Time Allowed:** 1 Hour
- **All questions are compulsory.**
- **Each question has four options, only one is correct.**

Student Information

- **Student Name**: _____
- **Class**: _____ **Section**: _____
- **Exam Roll No.**: _____
- **School**: _____

IQMO - Class 8 Sample Questions

Section 1: Fundamental Concepts *(10 Questions, 30 Marks)*

(Focus: Basic mathematical principles & calculations)

1. Simplify: **(3x + 5) + (2x - 7)**
   A) 5x - 2
   B) 5x + 12
   C) 6x - 2
   D) 6x + 12

2. If the perimeter of a square is 48 cm, what is its area?
   A) 144 cm^2
   B) 96 cm^2
   C) 64 cm^2
   D) 36 cm^2
3. Solve for **x**: **2x - 5 = 11**
   A) 6
   B) 8
   C) 5
   D) 3
4. The product of two numbers is 72. If one number is 8, what is the other number?
   A) 9
   B) 7
   C) 6
   D) 12
5. The HCF of 24 and 36 is:
   A) 6
   B) 8
   C) 12
   D) 18
6. Convert **3/4** into a percentage.
   A) 25%
   B) 50%
   C) 75%
   D) 100%
7. The cube of 4 is:
   A) 16
   B) 64
   C) 12
   D) 8
8. Find the next term in the sequence: **2, 5, 10, 17, ?**
   A) 26
   B) 28
   C) 30
   D) 32
9. The sum of angles in a quadrilateral is:
   A) 180°
   B) 270°
   C) 360°
   D) 90°
10. A number is divisible by 11 if:
    A) The sum of its digits is a multiple of 11
    B) The difference of its alternate digits is a multiple of 11
    C) It ends in 0
    D) It is even

Section 2: Logical Thinking *(5 Questions, 15 Marks)*

(Focus: Pattern recognition, sequences, and logical deductions)

11. Find the missing term: **3, 9, 27, ?, 243**
    A) 54
    B) 81
    C) 108
    D) 144
12. If 3 + 5 = 16, 4 + 6 = 25, then 5 + 7 = ?
    A) 36
    B) 30
    C) 49
    D) 40
13. Which number replaces the question mark?
    8, 27, 64, 125, **?**
    A) 150
    B) 216
    C) 225
    D) 240
14. If "BOOK" is coded as 211, how is "PEN" coded?
    A) 35
    B) 40
    C) 47
    D) 52
15. If today is Monday, what will be the day after 20 days?
    A) Sunday
    B) Monday
    C) Tuesday
    D) Wednesday

Section 3: Applied Problem Solving *(10 Questions, 35 Marks)*

(Focus: Real-life applications and case-based problem-solving)

16. A shopkeeper gives a **10% discount** on a ₹500 item. If GST is 5%, what is the final price?
    A) ₹450
    B) ₹475
    C) ₹480
    D) ₹472.5

17. A car covers **240 km in 4 hours**. What is its speed?
    A) 40 km/hr
    B) 50 km/hr
    C) 60 km/hr
    D) 70 km/hr
18. A sum of ₹8000 is invested at 10% per annum for **2 years**. Find the simple interest.
    A) ₹1600
    B) ₹2000
    C) ₹2400
    D) ₹3200
19. The area of a circle with radius 7 cm is:
    A) 154 cm²
    B) 144 cm²
    C) 120 cm²
    D) 128 cm²
20. A train is **150 m long** and crosses a **200 m platform in 20 sec**. Find its speed.
    A) 15 m/s
    B) 17.5 m/s
    C) 20 m/s
    D) 25 m/s

Section 4: Achievers Section *(5 Questions, 20 Marks)*

(Focus: Higher-order thinking, challenging problems for top performers)

21. A father is 30 years older than his son. In 10 years, he will be **twice** his son's age. Find their current ages.
    A) 30, 10
    B) 40, 10
    C) 50, 20
    D) 60, 30
22. If **A = 2, B = 3, C = 5**, what is the value of **$(A^2 + B^2) \times C$**?
    A) 49
    B) 64
    C) 65
    D) 100
23. Find the value of **$(\sqrt{81} + \sqrt{49}) \div (\sqrt{16} - \sqrt{9})$**
    A) 5
    B) 7
    C) 9
    D) 16
24. Solve: **$(3a + 2b)^2 - (3a - 2b)^2$**
    A) 12ab
    B) 24ab

C) 36ab
D) 40ab

IQNexus Mathematics Olympiad (IQMO) - Class 8 Answers

Section 1: Fundamental Concepts

1. A) 5x - 2

2. A) 144 cm^2

3. B) 8

4. A) 9

5. C) 12

6. C) 75%

7. B) 64

8. A) 26

9. C) 360°

10. B) The difference of its alternate digits is a multiple of 11

Section 2: Logical Thinking

11. B) 81

12. C) 49

13. B) 216

14. C) 47

15. B) Monday

Section 3: Applied Problem Solving

16. D) ₹472.5

17. C) 60 km/hr

18. A) ₹1600

19. A) 154 cm^2

20. B) 17.5 m/s

Section 4: Achievers Section

21. B) 40, 10

22. C) 65

23. D) 16

24. B) 24ab