12th iOM 19 International Olympiad of Mathematics

Presented by: Silver Zone Foundation, New Delhi · India
Organized by: Silverzone Foundation, New Delhi, India
For supremacy in Mathematics
www.silverzone.org

CLASS : 8 SAMPLE QUESTIONS

The Actual Question Paper Contains 50 Questions. The Duration of the Test Paper is 60 Minutes.

1. **A sum amounts to ₹ 7458 in 4 years and ₹ 8362 in 6 years at a certain rate of simple interest. Find the sum.**

(A) ₹ 5630 (B) ₹ 5050
(C) ₹ 5650 (D) ₹ 5030

2. **If $K = 7 - 4\sqrt{3}$, then find the value of $\left(\sqrt{K} + \sqrt{3}\right)^{3/2}$.**

(A) $\sqrt{2}$ (B) $2\sqrt{2}$ (C) $\sqrt{3}$ (D) $2\sqrt{3}$

3. **If p, q, r and s are four different positive integers selected from 1 to 50, then find the highest possible value of $\frac{(p+q)+(r+s)}{(p+q)+(r-s)}$.**

(A) 91 (B) 101 (C) 194 (D) 107

4. **What must be added to the following algebraic expression to make it a perfect square?**

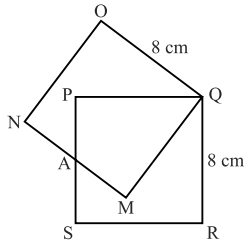
$$\frac{5x^2}{64} - \frac{3\sqrt{40}\,x}{20} + \frac{22}{25}$$

(A) $\frac{28}{25}$ (B) 1 (C) 2 (D) $\frac{51}{25}$

5. **If the eight digit number 5671*a*118 is exactly divisible by 222, then find the least possible value of *a*.**

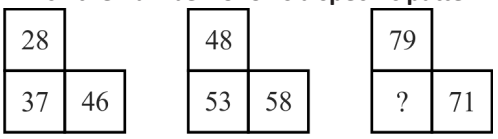
(A) 0 (B) 2 (C) 3 (D) 4

6. **In the figure given below, PQRS and QMNO are two identical squares with side length of 8 cm, and A is the mid-point of PS and MN, find the area of the hexagon QRSANOQ.**



(A) 80 cm^2 (B) 96 cm^2
(C) 112 cm^2 (D) 78 cm^2

7. **Examine the following three figures given below in which the number follows a specific pattern:**



The missing number in the third figure given above is _____.

(A) 65 (B) 75 (C) 30 (D) 68

8. **Read the statements given below:**

Statement I: $(123456 \times 123460) > (123458)^2$
Statement II: $(64)^{13} > (127)^{11}$
Statement III: $4^{32} > 64^{11}$

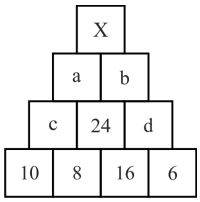
Based on the above statements choose the correct option:

(A) Only statement I is true
(B) Only statement II is true
(C) All the statements I, II and III are true
(D) All the statements I, II and III are false

9. **If p : q = 4 : 5, q : r = 6 : 7 and r : s = 3 : 4, then on dividing ₹ 7733 among p, q, r and s, the amount of q will be:**

(A) ₹ 1710 (B) ₹ 1468
(C) ₹ 1620 (D) ₹ 1805
(E) None of these

10. **The numbers are arranged in the diagram as shown below:**



If the number in any box is equal to the sum of the numbers in the boxes immediately below it, like X = a + b, a = c + 24 and so on. Find the value of 'X'.

(A) 100 (B) 64 (C) 88 (D) 90

ANSWERS

1. (C) 2. (B) 3. (B) 4. (C) 5. (D) 6. (B) 7. (B) 8. (B) 9. (A) 10. (C)