



SIMS[®]

(SCHOLARS INTEGRAL MATHS & SCIENCE OLYMPIADS-HYD)

GRADE
IX

BIGGEST STATE LEVEL OLYMPIAD : 2025-26

SIMO QUESTION PAPER : STAGE - I

MAX. MARKS : 90

TIME: 60 MIN.

NAME OF THE STUDENT :

HALL TICKET NUMBER :

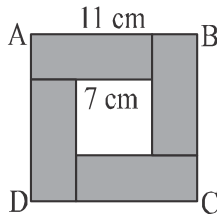
NAME OF THE SCHOOL :

INSTRUCTIONS:

- ✦ This question paper contains 30 questions.
- ✦ First 25 questions (1 to 25) are single correct answer type. Each question carries 3 marks.
- ✦ Next 5 questions (26 to 30) are one or more than one correct answer type. Each question carries 3 marks.
- ✦ No negative marks.
- ✦ You have not allowed to use a calculator or any other electronic devices in the examination hall.
- ✦ Read the instructions given in the answer sheet (OMR sheet) before answering the questions.
- ✦ The answer sheet should be returned to the invigilator before leaving the examination hall (You can retain the question paper with you)
- ✦ Results will be available at www.simsolympiads.com

Single Correct Answer Type: **$25 \times 3 = 75$**

- The sum of nine consecutive whole numbers is 99.
The largest of these numbers is _____.
1) 19 2) 15 3) 17 4) 21
- Simplify : $83 - [105 \div (70 - \{70 - 43 + 8\})]$.
1) 80 2) 90 3) 70 4) 88
- Simplify: $\frac{1}{1+a^{n-m}} + \frac{1}{1+a^{m-n}}$.
1) 0 2) 2 3) 1 4) 3
- Which of the following given when divided by 12, 74, 148 and 222 leaves a remainder 6 in each case ?
1) 444 2) 438 3) 450 4) 445
- Square ABCD is formed by four identical rectangles and a small square in the centre. What is the length of each rectangle ?



- 1) 7 cm 2) 12 cm 3) 9 cm 4) 11 cm
- Simplify and choose the correct option for

$$\left(\frac{169}{225}\right)^{1/2} \times \left(\frac{125}{27}\right)^{2/3} \times \left(\frac{81}{4}\right)^{1/2}$$

- 1) 0 2) 1 3) $\frac{65}{6}$ 4) $\frac{75}{3}$

7. Find the compound interest of ₹ 5000 for 2 years at the rate of 8 % per annum, when the interest is compounded annually.

- 1) ₹ 832 2) ₹ 5832 3) ₹ 828 4) ₹ 5823

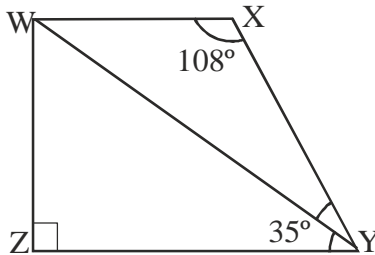
8. Factorise: $1 - a^2 - 2ab - b^2$.

- 1) $(1+a+b)(1-a-b)$ 2) $(1+a-b)(1-a-b)$
 3) $(1-a+b)(1-a-b)$ 4) $(a+b+1)(a+b-1)$

9. If $4^x + 4^x + 4^x + 4^x + 4^x + 4^x + 4^x + 4^x = \frac{1}{512}$, then the value of $\frac{12}{x}$ is _____.

- 1) 2 2) -2 3) -6 4) 4

10. The measure of $\angle XYW$ of the trapezium WXYZ given in the figure is _____.



- 1) 28° 2) 33° 3) 55° 4) 37°

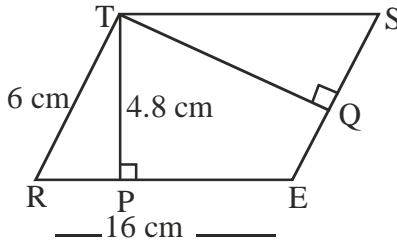
11. The value of 'a' if the polynomials $2x^3 + ax^2 + 3x - 5$ and $x^3 + x^2 - 4x - a$ leave the same remainder when divided by $(x-1)$ is _____.

- 1) -1 2) -2 3) 1 4) 2

12. If $x^{x\sqrt{x}} = (x\sqrt{x})^x$, then the value of x is _____.

- 1) $\frac{3}{2}$ 2) $\frac{2}{9}$ 3) $\frac{9}{4}$ 4) $\frac{4}{9}$

13. In the given figure, REST is a parallelogram. $TP \perp RE$ and $TQ \perp ES$. If $TR = 6$ cm, $RE = 16$ cm and $TP = 4.8$ cm, then the length of TQ is _____.



- 1) 12.8 cm 2) 15 cm 3) 8 cm 4) 10.2 cm

14. Measure of an angle, if seven times its complement is 10° less than three times its supplement.

- 1) 70° 2) 65° 3) 25° 4) 20°

15. If $x = \frac{5 - \sqrt{21}}{2}$, then the value of $x^2 + \frac{1}{x^2}$ is _____.

- 1) 23 2) 5 3) 4 4) 27

16. The cost of a note book is twice the cost of a pen. If the cost of a pen is 'x' and that of a note book is 'y', then a linear equation in two variables to represent the given condition is _____.

- 1) $x + 2y = 0$ 2) $x - 2y = 0$.
 3) $2x + y = 0$ 4) $2x - y = 0$

22. The value of $[1 - \{1 - (1 - x^2)^{-1}\}^{-1}]^{1/2}$, when $x = 0.2$.

- 1) 0.2 2) 0.04 3) 5 4) 0.5

23. The expression $\frac{2x}{x^2-4} \div \frac{4}{x^2-4x+4} + \frac{12}{x^2-4} \times \frac{2-x}{3}$ is equivalent to

1) $\frac{x-4}{2}$

2) $\frac{x-2}{4}$

3) $\frac{x^2-2x-8}{2x+4}$

4) $\frac{x^2-2x+8}{2x-4}$

24. If $55x + 52y = 217$, $52x + 55y = 217$ then find the value of y .

1) $\frac{437}{107}$

2) $\frac{215}{107}$

3) $\frac{217}{107}$

4) $\frac{52}{107}$

25. Two cylinders of same volume have their heights in the ratio 1: 3, then the ratio of their radii is _____.

1) $\sqrt{3}:1$

2) $\sqrt{2}:1$

3) $\sqrt{5}:2$

4) $2:\sqrt{5}$

ROUGH WORK