SMO – SYNERGY MATH OLYMPIAD

GRADE VIII – DETAILED CURRICULUM

THEME - SMO GRADE VIII

Know → Understand → Apply → Analyse → Reason → Think Beyond

EXAMINATION FRAMEWORK

Section	Domain	Marks
A	Mathematical & Logical Reasoning	10
B	Algebra & Mathematical Patterns	10
C	Geometry & Measurement	10
D	Problem Solving	10
E	Brain Teasers & Synergy Challenge – Think Beyond	10
TOTAL		50

GRADE VIII SYLLABUS STRUCTURE

Skill Area	Suggested Weight
Conceptual Understanding	20%
Application	30%
Logical & Mathematical Reasoning	20%
Higher-Order Thinking	20%
Visual / Puzzle-Based Thinking	10%

GRADE VIII QUESTION-DESIGN PRINCIPLE

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SYNERGY MATHEMATICS OLYMPIAD

GRADE VIII – SMO SAMPLE QUESTIONS

Instructions: Choose the correct answer. Questions are aligned to the Grade 8 SMO syllabus supplied,

with four visual/picture-based questions.

1. The sum of two rational numbers is – 8. If one of the numbers is $-\frac{15}{7}$ then the other is .

A. $\frac{41}{7}$ B. $\frac{39}{7}$ C. $-\frac{41}{7}$ D) None

2. If $x + 1/x = 5$, what is the value of $x^2 + 1/x^2$?

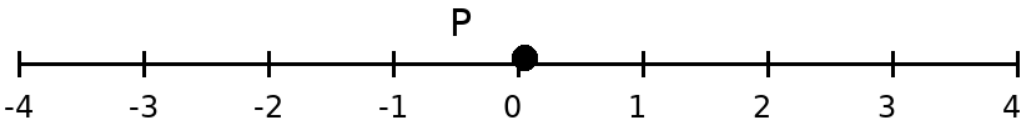
A. 23 B. 25 C. 27 D. 21

3. Find the value of √(0.000625 / 0.0025).

A) 0.05 B) 0.5 C) 0.25 D) 5

4. On the number line, point P represents which number?

Number line



A. -1 B. 0 C. 1 D. 2

5. If $x = 5$, what is the value of $2x^2 - 3x + 4$?

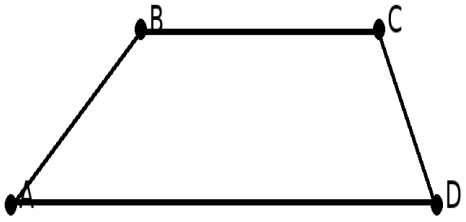
A. 39 B. 34 C. 29 D. 24

6. ABCD is the quadrilateral shown. If AB ∥ CD and AD ∥ BC, which type of quadrilateral is it?

A. Parallelogram B. Trapezium

C. Kite D. Rhombus

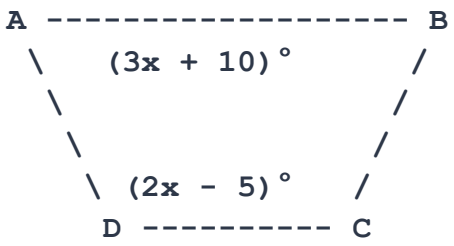
Quadrilateral ABCD



7. Pritam walks 15m towards South then turning to his right he walks 30m then turning to his left he walks
20m. Again, he turns to his left and walks 30m. How far is he from his starting position?

A. 25 m B. 35 m C. 45 m D. 55 m

8. Refer to the parallelogram ABCD below. Find the value of x and the measure of ∠C.



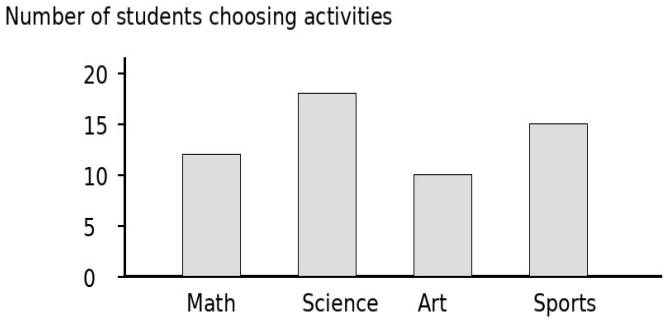
[**Diagram: Parallelogram ABCD with adjacent interior angles given at vertices A and D]**

A) x = 35, ∠C = 115° **B) x = 35, ∠C = 65°** **C) x = 25, ∠C = 45°** **D) x = 30, ∠C = 85°**

9. Use the bar graph. Which activity has the second-highest number of students?

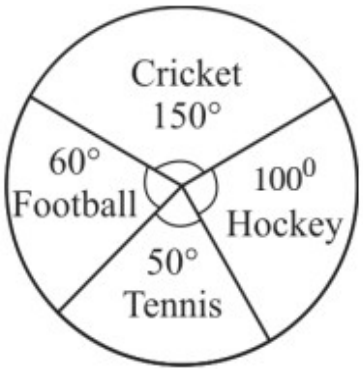
A. Math B. Science

C. Art D. Sports



10. The pie-chart represents the amount spent on different sports by a sport club in a year. If the total money spent by the club is ₹10,800, find the amount spent on cricket.

A) ₹3000 B) ₹4500 C) ₹5000 D) ₹6000



KEY

1	2	3	4	5	6	7	8	9	10
D	A	B	B	A	A	B	A	D	B