INDIAN SCHOOL SOHAR **SET I**

PERIODIC TEST II (2023-2024)

CLASS: VIII **MATHEMATICS** **MAX. MARKS: 20**

DATE: 15/01/2024 **TIME: 40 MINUTES**

General Instructions:

1. This question paper contains four sections A, B, C and D. Each section is compulsory. However, there are internal choices in some questions.
2. Section A has 4 MCQ and 1 Assertion-Reason based questions of 1 mark each.
3. Section B has 2 Very Short Answer (VSA)-type questions of 2 marks each.
4. Section C has 2 Short Answer (SA)-type questions of 3 marks each.
5. Section D has 1 Long Answer (LA)-type question of 5 marks .

	SECTION – A [This section comprises of multiple choice questions (MCQ) of 1 mark each]
1.	The area of a rectangle whose length = 5xy and breadth = 3yz is A) $15xyz$ B) $15xy^2z$ C) $15y^2$ D) $15xz$
2.	The product of 2xy and x + y is A) $2x^2y + y$ B) $x + 2xy^2$ C) $2x^2y^2$ D) $2x^2y + 2xy^2$
3.	The area of a rhombus whose diagonals are 10cm and 24cm is A) 480 cm^2 B) 240cm^2 C) 120cm^2 D) 60cm^2
4.	The lateral surface area of a cube of side 11cm is A) 484 cm^2 B) 363 cm^2 C) 242 cm^2 D) 121 cm^2
5.	A statement of assertion is followed by a statement of reason. Choose the correct option. **Assertion (A) : Volume of a cube of side 11cm is 1331cm^3.** **Reason (R) : Volume of a cube of side a is 6a^2.** A) Both **Assertion** and **Reason** are true, and **Reason** is the correct explanation for **Assertion**. B) Both **Assertion** and **Reason** are true, but **Reason** is not the correct explanation for **Assertion**. C) **Assertion** is true, but **Reason** is false. D) **Assertion** is false, but **Reason** is true.
	SECTION – B [This section comprises of very short answer type questions (VSA) of 2 marks each]
6.	Simplify $a(b – c) + b(c – a) + c(a – b)$ **OR** Find the product $(3abc)(4a^2bc^2)(5ab^2c)$

7.	A right circular cylinder has base radius 8cm and height 35cm. Find the curved surface area of the cylinder. $\left[\pi = \frac{22}{7}\right]$
SECTION – C [This section comprises of short answer type questions (SA) of 3 marks each]	
8.	Simplify $(x – y)(x^2 + xy + y^2)$
9.	A rectangular piece of paper 33cm x 16 cm is folded without overlapping to make a cylinder of height 16cm. Find the volume of the cylinder. $\left[\pi = \frac{22}{7}\right]$ **OR** A cuboid is of dimensions 75cm x 60cm x 50cm. How many small cubes with sides 5cm can be placed in the given cuboid?
SECTION – D [This section comprises of long answer type question (LA) of 5 marks]	
10	Simplify 3y(2y – 7) – 3(y – 4) – 60 and evaluate for y = (–2) and y = 2 **OR** The internal measures of a cuboidal room are 12m x 8m x 4m. Find the total cost of painting all four walls and the ceiling of the room at the rate of ₹ 50 per m^2.

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PERIODIC TEST II (2023-24)

MATHEMATICS

ANSWER KEY

Q. No.	Answers	MARKS
1)	B) $15xy^2z$	1
2)	D) $2x^2y + 2xy^2$	1
3)	C) $120cm^2$	1
4)	A) 484 cm^2	1
5)	C) **Assertion** is true, but **Reason** is false.	1
6)	$a(b - c) + b(c - a) + c(a - b) = ab - ac + bc - ab + ac - bc$ $= 0$ **OR** $(3abc)(4a^2bc^2)(5ab^2c) = 3 \times 4 \times 5 \times a \times a^2 \times a \times b \times b \times b^2 \times c \times c^2 \times c$ $= 60\, a^4b^4c^4$	1 1 1 1
7)	$r = 8cm$ $h = 35cm$ $CSA = 2\pi rh$ $= 2 \times \frac{22}{7} \times 8 \times 35$ $= 1760\ cm^2$	 ½ 1 ½
8)	$(x - y)(x^2 + xy + y^2) = x^3 + x^2y + xy^2 - x^2y - xy^2 - y^3$ $= x^3 - y^3$	2 1
9)	$l = 33\ cm$ $b = 16\ cm$ C = length of the paper $2\pi r = 33$ $r = \frac{21}{4}$ $V = \pi r^2h$ $= \frac{22}{7} \times \frac{21}{4} \times \frac{21}{4} \times 16$ $= 1386\ cm^3$	 ½ 1 ½ ½ ½

	OR	
	No. of cubes = $\frac{V\ (Cuboid)}{V\ (\ Cube)}$	
	= $\frac{\text{l x b x h}}{\text{a}^3}$	1
	= $\frac{75 \text{ x } 60 \text{ x } 50}{5 \text{ x } 5 \text{ x } 5}$	1
	= 1800	1
10)	$3y(2y - 7) - 3(y - 4) - 60 = 6y^2 - 21y - 3y + 12 - 60$	1
	$= 6y^2 - 24y - 48$	1
	For y = (–2), $6y^2 - 24y - 48 = 6 \text{ x } (-2)^2 - 24 \text{ x } (-2) - 48$	½
	$= 24 + 48 - 48$	½
	$= 24$	½
	For y = 2, $6y^2 - 24y - 48 = 6 \text{ x } (2)^2 - 24 \text{ x } 2 - 48$	½
	$= 24 - 48 - 48$	½
	$= (-72)$	½
	OR	
	A = 2h (l + b) + lb	1
	= 2 x 4 (12 + 8) + 12 x 8	1
	= 2 x 4 x 20 + 96	
	= 256 m^2	1
	Cost of painting = 256 x 50	1
	= ₹ 12800	1