SAMPLE PAPER
TERM-I (2025-26)
CLASS-VIII (MATHEMATICS)

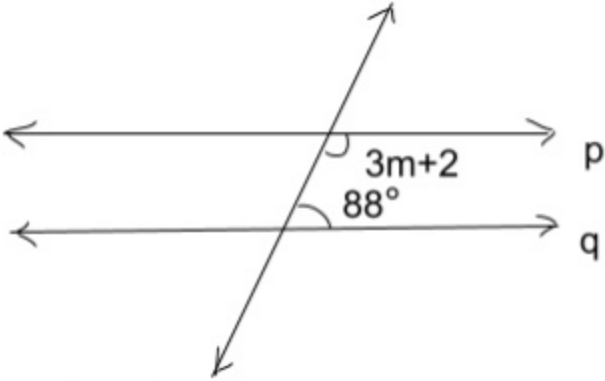**Time: 3 hours**   **M.M: 80**

General instructions
1. This question paper contains 38 questions and 5 printed pages.
2. This Question paper contains - five sections A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
3. Section A has 18 MCQ's and 02 Assertion-Reason based questions of 1 mark each.
4. Section B has 5 Very Short Answer (VSA)-type questions of 2 marks each.
5. Section C has 6 Short Answer (SA)-type questions of 3 marks each.
6. Section D has 4 Long Answer (LA)-type questions of 5 marks each.
7. Section E has 3 source based/case based/passage based/integrated units of assessment of 4 marks each with sub parts.
8. 15 minutes time has been allotted to read this question paper.

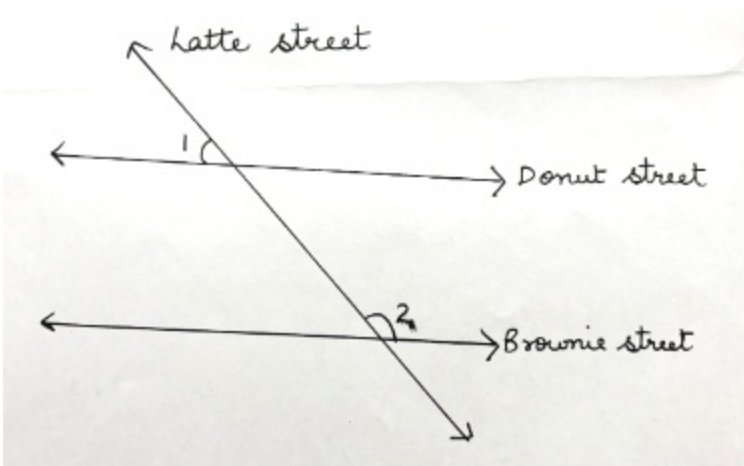| S. No.	Section A (This section comprises multiple choice questions of 1 mark each)	Marks
1	The factors of x^2+5x-6 are: (A) $(x+6)(x-1)$ (B) $(x+6)(x+1)$ (C) $(x-6)(x-1)$ (D) $(x-6)(x+1)$	(1)
2	If the selling price of 5 apples is equal to the cost price of 4 apples, then the gain or loss percentage is: (A) 20% gain	(1)

	(B) 20% loss (C) 25% loss (D) 25%gain	
3	If the total surface area of a cube is 96 cm², then lateral surface area is: (A) 64 cm² (B) 48 cm² (C) 96 cm² (D) 128 cm²	(1)
4	The coordinates of a point on y-axis at a distance of 3 units from the origin are: (A) (0,3) (B) (3,0) (C) (3,3) (D) (0,0)	(1)
5	If "c" is inversely proportional to "d" and c=24 when d=$\frac{2}{3}$. The value of d when c=$\frac{2}{7}$ is: (A) 54 (B) 52 (C) 56 (D) 58	(1)
6	The number of non perfect square numbers between (213)² and (214)² is: (A) 428 (B) 426 (C) 424 (D) 427	(1)
7	The value of $(x + y)^2 - (x - y)^2$ is: (A) 4xy (B) 0	(1)

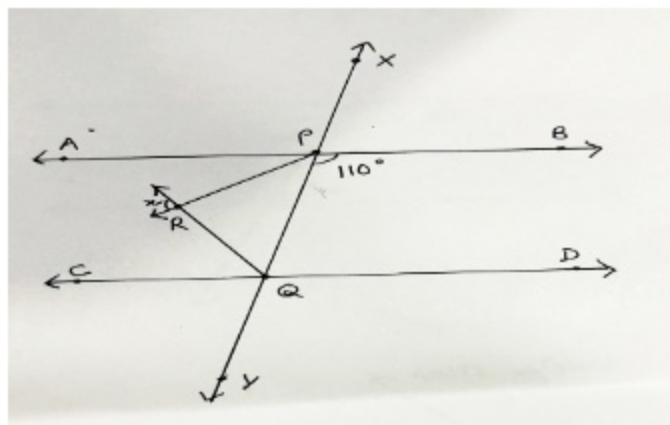|		
	(C) 2xy	
	(D) $x^2 - y^2$	
8	If PM $\perp$ x-axis, where P is a point whose coordinates are (3,4), then coordinates of point M are: (A) (0,3) (B) (0,4) (C) (3,0) (D) (4,0)	(1)
9	A cloth is marked for ₹2590, but sold for ₹2331, then the discount percent is: (A) 10 (B) 20 (C) 30 (D) 40	(1)
10	If volume of a cuboid = 216 cm³ and height = 6 cm, and breadth = 3 cm, then its length is: (A) 12 cm (B) 18 cm (C) 6 cm (D) 9 cm	(1)
11	The distance between the points A(0,4) and B(0,7) is: (A) 0 units (B) 11 units (C) 3 units (D) Can't be determined	(1)
12	Coordinates of two points P and Q are (2,3) and (4,5) respectively, then the value of (abscissa of P - Ordinate of Q) is: (A) -2 (B) 2 (C) 3 (D) -3	(1)

13	If $\sqrt[3]{x-12}$ =9, then the value of 'x' is:
	    (A) 15
	    (B) 717
	    (C) 741
	    (D) 9
		(1)

14	The smallest number by which 240 should be multiplied so that the product is a perfect square is:
	    (A) 5
	    (B) 3
	    (C) 10
	    (D) 15
		(1)

15	$\sqrt[3]{209 + \sqrt[3]{343}}$ equals:
	    (A) 6
	    (B) 7
	    (C) 8
	    (D) 9
		(1)

16	Value of 'm' that makes p // q is:
	
	    (A) 11
	    (B) 20
	    (C) 30
	    (D) 10
		(1)

17	If the total surface area of a cylinder is 616 cm² and radius is 7 cm, its height is: (A) 5 cm	(1)

	(B) 9 cm (C) 6 cm (D) 7 cm	
18	The value of $\dfrac{\sqrt{243}}{\sqrt{867}}$ is: (A) $\dfrac{81}{289}$ (B) $\sqrt{\dfrac{9}{17}}$ (C) $\dfrac{9}{17}$ (D) $\dfrac{81}{\sqrt{289}}$	(1)

In the given questions 19 and 20, Assertion(A), and the corresponding reason(R) supporting in a given condition are given.Study both the statements and state which of the following is correct.
- (A)   both A and R are true and R is the correct explanation of A.
- (B)   both A and R are true, but R is not the correct explanation of A.
- (C)   A is true, but R is false.
- (D)   A is false, but R is true.

19	ASSERTION (A) - Simple interest earned on ₹1000 for 2 years at 3% p.a. is ₹60 implies interest earned at ₹2000 for 2 years at the same rate is ₹120. REASON (R) - When x and y varies inversely $x \times y$ = constant.	(1)
20	ASSERTION (A) - Anil sold jeans for ₹1200. Its marked price is ₹1500, so the discount is ₹300. REASON (R) : Loss= Cost Price - Selling Price	(1)

Section B
(This section comprises a very short answer type (VSA) of 2 marks each.)

21	Two cubes have edges in the ratio of 2:3. Find the ratio of their volumes and surface areas.	(2)

22	If $\sqrt[3]{-343} + x = \sqrt[3]{0.008}$, then find the value of "x". OR Solve: $\sqrt[3]{729} + \sqrt[3]{0.064} - \sqrt[3]{0.125}$	(2)
23	Evaluate: $(97)^2$ using suitable algebraic identity. OR Evaluate: (12.4×11.6) using suitable algebraic identity.	(2)
24	Find the smallest number that must be added to 1985 to make it a perfect square.	(2)
25	Observe the image given below and answer the following question: Do you agree with Miku ? Justify your answer.	(2)
Section C (This section comprises short answer type (SA) of 3 marks each.)		
26	Factorize: $(4a^2 - 12ab + 9b^2) - 16c^2$ OR Find the product using suitable identity $(m+5)(m-5)(m^2+25)$	(3)
27	Find the smallest number by which 2250 must be multiplied so that	(3)

	the product is a perfect cube.Also find the cube root of the new number formed.	
28	A seller listed a product online for ₹1200. He gave a discount of 15% and still earned a 20% profit. Find the cost price of the product.	(3)
29	A farmer has a square field with an area of 2025 square meters. If he wants to build a fence around the field, how much fencing material will he need?	(3)
30	Plot the points A(2,2), B(5,2) and C(3,5) on the graph paper. Connect each pair so as to get a closed figure. Find the area of the figure so formed. OR On the cartesian plane draw a rectangle ABCD, whose two vertices are A(2,1) and C(6,6). Hence write the coordinates of B and D.	(3)
31	Donut street and brownie street are parallel.Latte street intersects them ,as shown below: If $m\angle 1 = (5x+32)°$ and $m\angle 2 = (2x+57)°$, find the value of $m\angle 1$.	(3)
Section D (This section comprises a long answer type (LA) of 5 marks each.)		
32	The volume of a metallic pipe is 748 cubic cm. Its length is 14cm	5

and its external radius is 9cm.

(A) Find the total cost of painting the outer curved surface area of pipe if the cost of painting 1 sq. cm is ₹35.
(B) Find the thickness of the pipe.

OR

Ravi has a cylindrical water tank on his terrace whose radius of the base is 1.4 m and height is 2 m whereas Anita has a cuboidal water tank on her terrace whose dimensions are 3.4m×1.6m×2.5m.

(A) Find the volume of the water tank installed on Ravi's terrace.
(B) What quantity of water can Anita's tank hold?
(C) If water costs ₹25 per 100 liters, what will be the cost Ravi needs to pay for filling the tank fully?

33	A 250 m long Indian train Vande Bharat is moving at a constant speed of 144 km/hr. How much time will it take to cross a bridge 150 m long? After a few hours it crosses a tunnel with the same speed in 50 seconds. Find the length of the tunnel.	(5)
34	The area of a square is given as $(121p^2 + 16q^2 - 88pq)$ sq. units. Express it as the square of a binomial and hence find the side of the square.Also find the value of the area of the square for p=1 and q=2. **OR** If $(a + \frac{1}{a}) = 17/4$, find the value of $(a - \frac{1}{a})$.	(5)
35	In the given figure,AB ∥ CD and XY is a transversal. $\angle$BPQ =110°, PR and QR are the bisector of $\angle$APQ and $\angle$CQP respectively.Find the value of 'x'	(5)

| 36 | As part of the Green India initiative, your school decided to organize a Plantation Drive to promote environmental awareness. The school garden, which is in the shape of a pentagon, was selected for this noble activity. To make the participation more inclusive, the school head boy divided the garden into two distinct parts: | |

1. A trapezium-shaped section for the senior wing students, and

2. A triangle-shaped section for the middle wing students.

This smart division not only allowed students from different wings to participate but also helped in better planning of space for the trees.

The total area of the trapezium is given as 10,500 sq.m., and its height is 100 m. The two parallel sides of the trapezium are such that one is twice the other. The triangle ($\triangle$DCE), where the middle wing will plant saplings, has a height of 55 m from point D to the base EC.

Additionally, it is planned to either fence the triangular garden (DCE) or cover the entire garden with grass for beautification. The sides ED and CD of the triangle are 90 m each.

(1)

(1)

(2)

(4)

Based on this situation, answer the following

(A) Find the length of both the parallel sides of the trapezium, given that one side is twice the other.

(B) Find the area of the triangle DCE, given its height and base.

(C) If ED = CD = 90 m, find the cost of fencing the triangle-shaped garden (DCE) at the rate of ₹25 per metre.

OR

Find the cost of covering the entire garden (trapezium + triangle) with grass at the rate of ₹2 per sq.m.

37

(4)

Saumya runs a small gift shop. One day, she went to a wholesale store to buy two designer storage boxes for resale. After some bargaining, the shopkeeper agreed to sell both boxes together for ₹4320.

Saumya brought the two boxes back to her shop and decided to sell them to her customers. Since the two buyers were friends, she wanted to be fair and set the same selling price for both boxes.

She sold the first box at a profit of 20%, and the second box at a loss of 20%. Despite this, she kept the selling price of both boxes the same to avoid any complaints or comparison.

Now, Saumya wonders whether she made a profit or a loss overall—or if she just broke even.

Based on the above case, answer the following questions:

    (A)   Find the selling price of each box.
    (B)   Find the cost price of the second box.
    (C)   Calculate the actual profit (in ₹) made on the first box.

               OR

    If Saumya had sold the first box at a 25% profit instead, what would have been her profit on that box (in ₹)

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38   (4)

Ram, a passionate Class 8 student who dreams of becoming a civil engineer, visited Egypt during his summer vacation. He was fascinated by the majestic pyramids of Giza, and was especially curious about the mathematical precision and architectural stability used in constructing such massive structures thousands of years ago.

Motivated by this experience and inspired by the Sustainable Development Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation), Ram decided to recreate a pyramid model at home using square blocks.

To construct this model:

He decided that the number of blocks in the bottom-most layer (the base) would be equal to the sum of the first 8 consecutive odd numbers.He created the base of the pyramid using the number of blocks the same as the sum of the first eight consecutive odd numbers. (moving from bottom to top, he arranges the blocks using the pattern n^2, $(n-1)^2$,$(n-2)^2$.....$(n-7)^2$

Answer the following question (considering the base of the pyramid as level1)

(A) Calculate the number of blocks used at the base of the pyramid.
(B) Find the total number of blocks used in making the Pyramid.
(C) Find the number of blocks used at the 6th level from the bottom of the pyramid.

OR

Find the sum of the number of blocks used at 2nd level and 7th level of the pyramid.