Student ID | | | | | | | | | | | |

Directorate of Education, GNCT of Delhi

Practice Paper (Annual-Term)

Session: 2025-26

Class – VIII

Subject-Mathematics

Duration: $2\frac{1}{2}$ hours **Max. Marks: 60**

GENERAL INSTRUCTIONS:

Read the following instructions carefully and follow them:

1. This question paper has 16 questions. All questions are compulsory.
2. Question paper is divided into **FIVE** sections-Section A, B, C, D and E.
3. In section A-question number 1 has multiple choice questions (MCQs) of 1 mark each.
4. In section B-question number 2 to 7 are objective type questions of 02 marks each.
5. In section C-question number 8 to 10 are short answer (SA) type questions carrying 03 marks each.
6. In section D-question number 11 to 13 are long answer (LA) type questions carrying 05 marks each.
7. In section E-question number 14 to 16 are source based/case study questions carrying 04 marks each.
8. There is no overall choice. However, an internal choice has been provided in 1 question in Section B, 1 question in Section C, 2 questions in Section D and in each 2 marks questions in Section E.
9. Draw neat figures wherever required. Take $\pi = \frac{22}{7}$ wherever required if not stated.
10. Use of calculator is NOT allowed.
11. **Please write down the serial number of questions before attempting it.**

SECTION-A

Question 1 consists of Multiple-Choice Questions (i-xii) of 1 mark each. Choose the appropriate option from the given options: **$(12 \times 1 = 12)$**

1 (i) Which of the following in an identity?

(a) $(a+b)^2 = a^2 + b^2$ (b) $(a-b)^2 = a^2 - b^2$

(c) $(a-b)^2 = a^2 + 2ab - b^2$ (d) $(a+b)^2 = a^2 + 2ab + b^2$

1 (ii) The volume of a cube is 64 cm^3. Its edge is:

(a) 4 cm (b) 6 cm

(c) 8 cm (d) 5 cm

1 (iii) The 5% of a number is 10, then the number is:

(a) 100 (b) 200

(c) 50 (d) 1000

1 (iv) The probability of getting an odd prime number when a die is rolled is:

(a) $\frac{1}{3}$ (b) $\frac{1}{6}$

(c) $\frac{2}{3}$ (d) $\frac{1}{2}$

1 (v) Which of the following is the square of an odd number?

(a) 144 (b) 400

(c) 225 (d) 324

1 (vi) $\sqrt{1^3 + 2^3 + 3^3}$ is equal to:

(a) 4 (b) 5

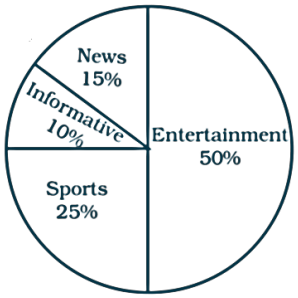
(c) 6 (d) 7

1 (vii) For which of the following figures, diagonals bisect each other?

(a) Square (b) Kite

(c) Trapezium (d) Quadrilateral

1 (viii) The adjacent pie chart depicts the information of viewers watching different type of channels on TV. Which type of programmes are viewed the most?



(a) News (b) Sports

(c) Entertainment (d) Informative

1 (ix) The one's digit of the cube of 36 is:

(a) 6 (b) 7

(c) 3 (d) 9

1 (x) If three angles of a quadrilateral are each equal to 75°, the fourth angle is:

(a) 90° (b) 135°

(c) 145° (d) 155°

1 (xi) Which of the following is ***not*** true?

(a) $\frac{1}{3} + \frac{2}{5} = \frac{2}{5} + \frac{1}{3}$ (b) $\frac{1}{3} - \frac{2}{5} = \frac{2}{5} - \frac{1}{3}$

(c) $\frac{1}{3} \times \frac{2}{5} = \frac{2}{5} \times \frac{1}{3}$ (d) $\frac{1}{3} \div \frac{2}{5} = \frac{1}{3} \times \frac{5}{2}$

1 (xii) Which of the following is a linear expression?

(a) $x^2 + 1$ (b) $t^2 + t$

(c) 1 (d) $y - 5$

SECTION-B

Question 2 to 7 are Objective Type Questions of 2 marks each **($6\times 2 = 12$)**

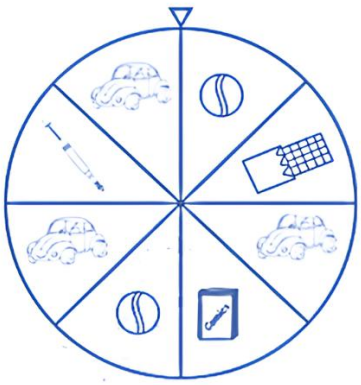
2. Using suitable rearrangement, find the sum:

$$\frac{3}{5} + \left(-\frac{3}{8}\right) + \frac{2}{5} + \left(-\frac{5}{8}\right)$$

3. (i) At a Birthday Party, the children spin a wheel to get a gift. Find the probability of

(a) getting a ball

(b) getting a toy car



OR

3. (ii) A box contains 6 lemon candies, 5 mango candies, 4 strawberry candies and 5 chocolate candies of same size. Meera takes out a candy from the box at random. What is the probability that the chosen candy is of mango flavour?

4. Find the length of the side of a square if the length of its diagonal is 10cm.

5. The sum of three consecutive even natural numbers is 48. Find the greatest of these numbers.

6. In parallelogram ABCD, find ∠B, ∠C and ∠D.

7. Evaluate using suitable identity: $(73)^2 - (27)^2$

SECTION-C

Question 8 to 10 are Short Answer Type Questions of 3 marks each **(3× 3 = 9)**

8. (a) Find the value of *k* so that

$$\left(\frac{8}{5}\right)^{-3} \times \left(\frac{8}{5}\right)^{-9} = \left(\frac{8}{5}\right)^{5k+3}$$

OR

8. (b) Simplify:

$$\left(\frac{1}{3}\right)^{-3} + \left(\frac{1}{5}\right)^{-2} + \left(\frac{1}{2}\right)^{-4}$$

9. Pratham bought medicines from a medical store as prescribed by his doctor for ₹ 550 including 4% VAT. Find the price before VAT was added.

10. The mass of a metal rod varies directly with its length. If a 15 cm long rod has a mass of 195 g, find the length of the rod whose mass is 270 g.

SECTION-D

Question 11 to 13 are Long Answer Type Questions of 5 marks each **(3× 5 = 15)**

11. The length, breadth and height of a cuboidal reservoir is 7 m, 6 m and 15 m respectively. 8400 L of water is pumped out from the reservoir. Find the fall in the water level in the reservoir. `

12. (i) $\frac{2}{5}$ of total number of students of a school come by car while $\frac{1}{4}$ of students come by bus to school. All the other students walk to school of which $\frac{1}{3}$ walk on their own and

the rest are escorted by their parents. If 224 students come to school walking on their own, find how many students

(a) Study in that school?

(b) Come to school by car?

(c) Come to school by bus?

(d) Escorted by their parents?

OR

12. (ii)A mother and her two daughters got a room constructed for ₹ 62,000. The elder daughter contributes $\frac{3}{8}$ of her mother's contribution while the younger daughter contributes $\frac{1}{2}$ of her mother's share. Find the contribution of

(a) Mother.

(b) Elder daughter.

(c) Younger daughter.

(d) Both the daughters together.

13. Study the graph given along side and answer the questions that follow.

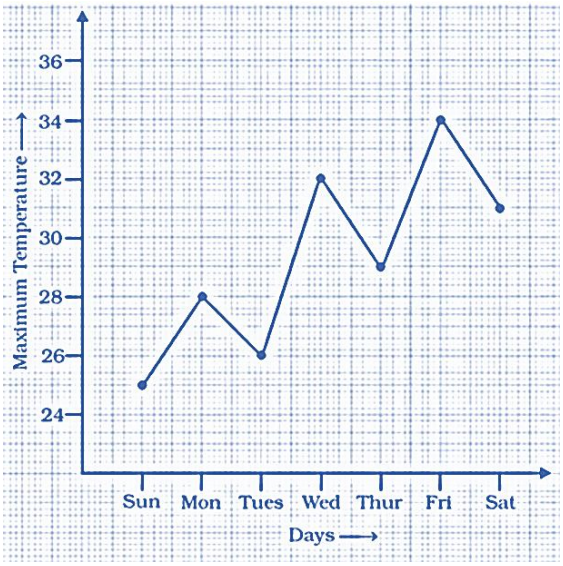
(a) What information does the graph give?

(b) On which day was the temperature the least?

(c) On which day was the temperature 31°C?

(d) On which day was the temperature 28°C?

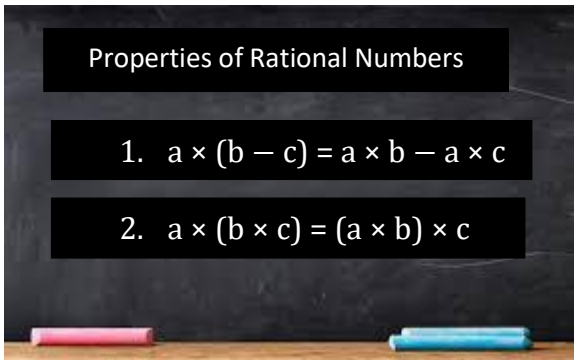
(e) Which was the hottest day?



SECTION-E

Question 14 to 16 are Source Based/Case Study Questions of 4 marks each $(3\times 4 = 12)$

14. In a mathematics activity, students are exploring the properties of rational numbers. Their teacher writes an expression on the black-board:



where a, b and c are rational numbers.

Based on the above information answer the following questions:

(i) Name the property 1 written on the black-board. 1

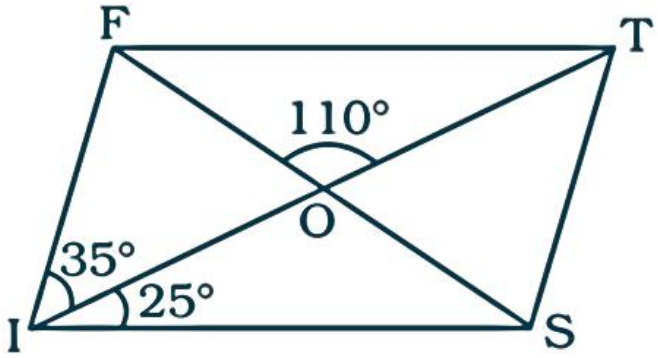
(ii) Name the property 2 written on the black-board. 1

(iii) (a) Verify the property 1 when a = $\frac{1}{3}$, b = $\frac{1}{4}$, c = $\frac{1}{5}$. 2

OR

(iii) (b) Verify the property 2 when a = $\frac{1}{2}$, b = $-\frac{1}{3}$, c = $\frac{1}{4}$. 2

15. Ms. Babita was explaining to her students that opposite sides and opposite angles of a parallelograms are equal. Further, the diagonals of a parallelogram bisect each other. She drew the following figure on the black board.



Based on the above information answer the following questions:

(i) Find the degree measure of ∠TOS. 1

(ii) Find the degree measure of ∠IOS. 1

(iii) (a) Find the degree measure of ∠FOI. 2

OR

(iii) (b) Find the degree measure of ∠OSI. 2

16. During a classroom activity, the teacher was discussing the power of algebra and how it can be used to solve the problems of geometry as well. She wrote the following expression on the black board:

The area of a rectangle = $(x^2 + 12xy + 27y^2)$ cm^2 and its length = $(x + 9y)$ cm.

Based on the above information answer the following questions:

(i) Find the length of the rectangle when x = 1, y =1. 1

(ii) Find the area of the rectangle when x = 1, y =1. 1

(iii) (a) Find the breadth of the rectangle when x = 1, y =1. 2

OR

(iii) (b) Find the breadth of the rectangle when x = 2, y =1. 2