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

Directorate of Education, GNCT of Delhi

Practice Paper (Annual-Term)

Session: 2025-26

Class – VII

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) A solid that has only one vertex is:

(a) Cube (b) Cone

(c) Cylinder (d) Pyramid

1 (ii) $(1^3 + 2^3 + 3^3)^{\frac{1}{2}}$ is equal to:

(a) 2 (b) 4

(c) 6 (d) 8

1 (iii) The side length of the top of square table is *s*. The expression for perimeter is:

(a) $4 + s$ (b) $2s$

(c) $4s$ (d) $6s$

1 (iv) The median of first five natural numbers is:

(a) 2 (b) 3

(c) 4 (d) 5

1 (v) If $4.3x = 86$, then the value of x is:

(a) 2 (b) 20

(c) 200 (d) 0.2

1 (vi) The angle which makes a linear pair with an angle of 61° is of:

(a) 29° (b) 61°

(c) 122° (d) 119°

1 (vii) The decimal expression for 5 rupees 5 paise (in Rupees) is

(a) 5.5 (b) 5.05

(c) 5.005 (d) 55.0

1 (viii) In a right-angled triangle, the angles other than the right angle are:

(a) Obtuse (b) Right

(c) Acute (d) Straight

1 (ix) 0.01 is equal to:

(a) 10% (b) 100%

(c) 1% (d) 50%

1 (x) Which of the following is equivalent to $\frac{3}{4}$?

(a) $\frac{4}{3}$ (b) $\frac{15}{20}$

(c) $\frac{20}{15}$ (d) $\frac{9}{10}$

1 (xi) Area of triangle PQR is 100 cm^2. If altitude QT, is on PR, is 10 cm, then its base PR is:

(a) 20 cm (b) 15 cm

(c) 10 cm (d) 5 cm

1 (xii) Which of the following pair of angles are supplementary?

(a) 48°, 42° (b) 60°, 60°

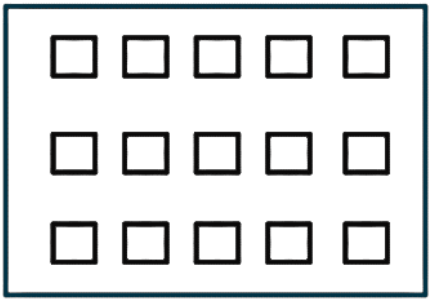
(c) 75°, 105° (d) 179°, 2°

SECTION-B

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

2. Height of a place P is 800 m above sea level. Another place Q is 300 m below sea level. What is the difference between the levels of these two places?

3. Shade $\frac{2}{5}$ of the squares in the following box.



4. (a) Find the mean of the first ten even natural numbers.

OR

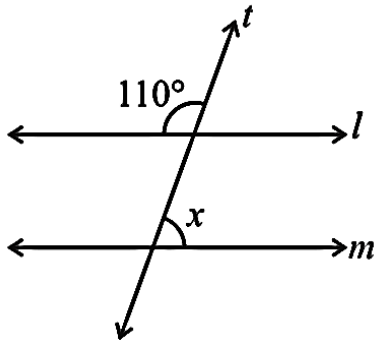
4. (b) The following are weights (in kg) of 12 people.

70, 62, 54, 57, 62, 84, 75, 59, 62, 65, 78, 60

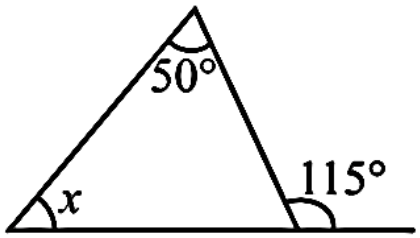
Find the mean of the weights of the people.

5. Solve: 2q + 6 = 12

6. Find the value of *x* in the following figure if *l* || *m*.



7. Find angle *x* in the following figure.



SECTION-C

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

8. (a) If Kavita gives an interest of ₹50 for one year at 8% rate p.a. What is the sum she has borrowed?

OR

8. (b) The strength of a school is 2000. If 40 % of the students are girls then how many boys are there in the school?

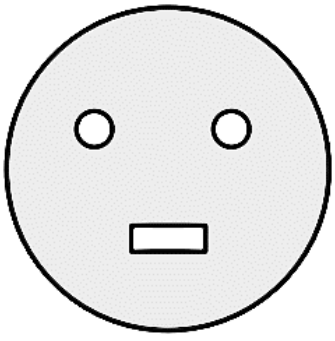
9. If one side of a square is represented by (18x – 20) and the adjacent side is represented by (42 – 13x), find the length of the side of the square.

10. Taking $x = -\frac{1}{6}, y = \frac{3}{4}$ and $z = \frac{7}{8}$ find $x \times (y - z)$.

SECTION-D

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

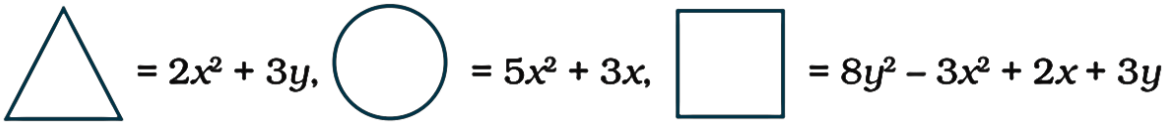
11. (a) From a circular card sheet of radius 21 cm, two circles of radius 7 cm and a rectangle of length 3 cm and breadth 1cm are removed. (as shown in the following figure). Find the area of the remaining sheet. (Take $\pi = \frac{22}{7}$)



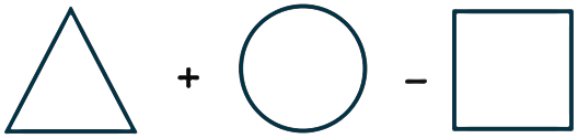
OR

11. (b) A gardener wants to fence a circular garden of diameter 21m. Find the length of the rope he needs to purchase, if he makes 2 rounds of fence. Also, find the cost of the rope, if it costs ₹4 per meter.

12. Each symbol given below represents an algebraic expression:

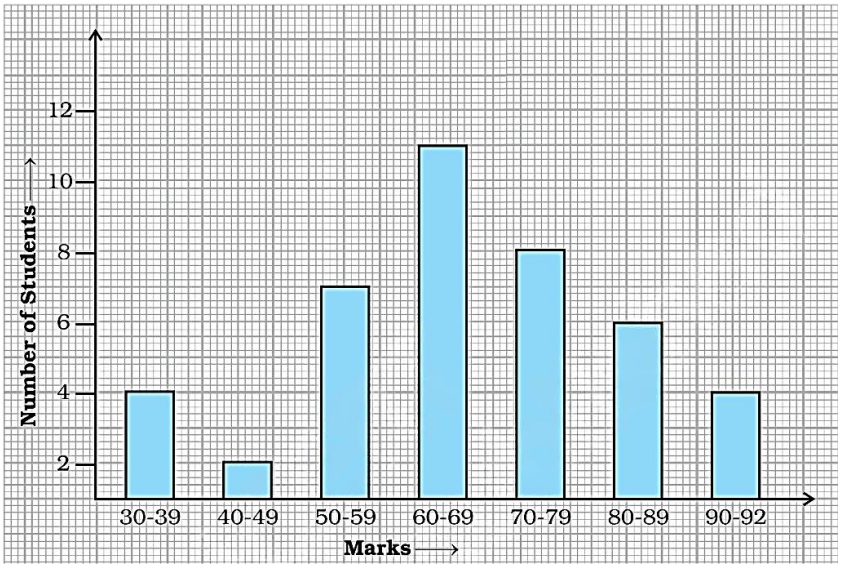


The symbols are then represented in the expression:



Find the expression which is represented by the above symbols.

13. The bar graph given below shows the marks of students of a class in a particular subject:



Study the bar graph and answer the following questions:

(a) If 40 is the pass mark, then how many students have failed?

(b) How many students got marks from 50 to 59?

(c) How many students scored 90 marks and above?

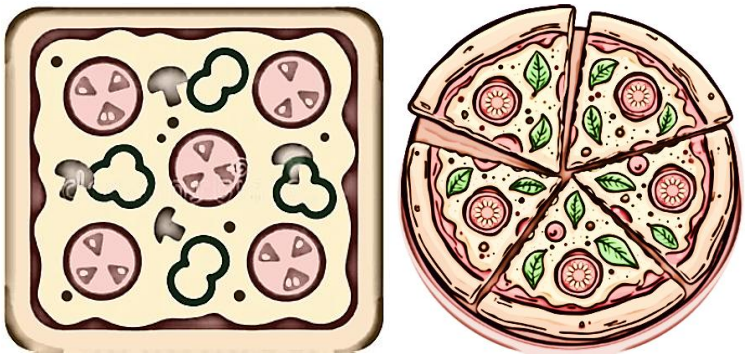
(d) If students who scored marks above 80 are given merits then how many merit holders are there?

(e) What is the strength of the class?

SECTION-E

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

14. A Pizza Factory has introduced two kinds of pizzas — a square pizza and a circular pizza.



The square pizza has a side of 45 cm and costs ₹150.

The circular pizza has a diameter of 70 cm and costs ₹160.

Based on the given information, answer the following questions:

(i) Find the area of the square pizza. 1

(ii) Find the area of the circular pizza. 1

(iii) (a) Which pizza offers a better deal in terms of cost per square centimetre of pizza? Show your calculations to support your answer. 2

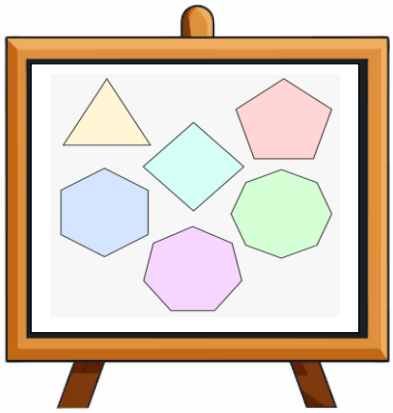
OR

(iii) (b) If both pizzas were priced at ₹150 each, which one would give a larger area per rupee spent? 2

15. During a mathematics class, the teacher drew several polygons on the board — a triangle, a quadrilateral, a pentagon, and a hexagon. She then asked the students to observe and find out how many diagonals each polygon could have. To help them, she shared the formula:

$$\text{Number of diagonals} = \frac{1}{2}(n^2 - 3n)$$

where *n* represents the number of sides of the polygon.



Based on the given information, answer the following questions:

(i) How many sides are there in a pentagon? 1

(ii) Write the number of sides in a hexagon. 1

(iii) (a) Use the above formula to find the number of diagonals in a pentagon. 2

OR

(iii) (b) Use the above formula to find the number of diagonals in a hexagon. 2

16. During a winter morning, the temperature in Shimla changed as follows in one day:

Time	Change in Temperature (°C)
6 AM – 9 AM	Rise by 3°C
9 AM – 12 PM	Fall by 5°C
12 PM – 3 PM	Rise by 4°C
3 PM – 6 PM	Fall by 6°C
6 PM – 9 PM	Rise by 2°C

Based on the above information answer the following questions:

(i) Represent temperature change from 6 AM to 9 AM using positive or negative integer. 1

(ii) Represent temperature change from 3 PM to 6 PM using positive or negative integer. 1

(iii) (a) If the temperature at 6 AM was 2°C, find the temperature at 9 AM. 2

OR

(iii) (b) If the temperature at 3 PM was 5°C, find the temperature at 6 PM. 2