

# Directorate of Education, GNCT of Delhi

## Practice Paper (Session: 2024-25)

### Class – VIII

### Subject – Mathematics

Duration:  $2\frac{1}{2}$  hours

Max. Marks: 60

General Instructions:

1. This question paper has 16 questions divided into 5 Sections A, B, C, D and E.
2. Section A has 1 question having 12 sub-parts. Each sub-part is of 1 mark.
3. Section B has 6 questions carrying 02 marks each.
4. Section C has 3 questions carrying 03 marks each.
5. Section D has 3 questions carrying 05 marks each.
6. Section E has 3 case based questions (04 marks each) with sub- parts of the values of 1, 1 and 2 marks.
7. All questions are compulsory. However, an internal choice in 2 questions of 5 marks, 1 question of 3 marks and 1 question of 2 marks has been provided. An internal choice has been provided in the 2 marks questions of Section E .
8. Draw neat figures wherever required.
9. Use of calculator is not permitted.

**Please write down the serial number of question before attempting it.**

### SECTION A

*Q 1 has 12 (i – xii) multiple choice questions. Select the most appropriate answer from the given options. Each question is of 1 mark.*

(i) Which of the following is a binomial?

(a) 100

(b)  $m+n-2$

(c)  $4p-5$

(d)  $-10b$

(ii) The alphabet representing parallel lines is :

(a) N

(b) L

(c) X

(d) V

(iii) The value of  $(5^0 + 8^0) \times 2^0$  is:

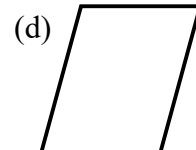
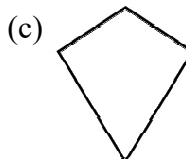
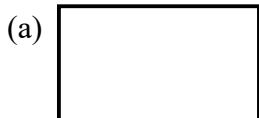
(a) 0

(b) 4

(c) 1

(d) 2

(iv) Which of the following is the figure of a trapezium?



(v) The value of  $(502)^2 - (498)^2$  is:

- (a) 3000                      (b) 6000                      (c) 4000                      (d) 5000

(vi) A cylinder of height 28 cm and radius 6 cm is cut open. The breadth of the rectangle thus formed is:

- (a) 6 cm                      (b) 28 cm                      (c) 14 cm                      (d) 12 cm

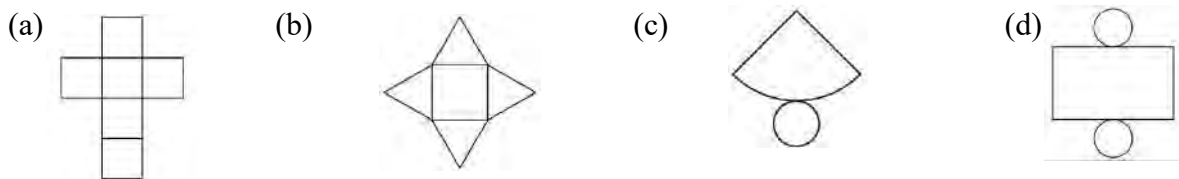
(vii) A quadrilateral having one and only one pair of parallel lines is called a:

- (a) Parallelogram                      (b) Rhombus                      (c) Trapezium                      (d) Kite

(viii) The cube root of  $-1000$  is:

- (a) 10                      (b)  $-100$                       (c) 100                      (d)  $-10$

(ix) The net of a cylinder is:



(x) In a class, 25% of students like English, 40% like Mathematics and remaining students like Science.

The percentage of students who like Science are:

- (a) 25%                      (b) 35%                      (c) 40%                      (d) 65%

(xi) The surface area of a cube having side  $3q$  is:

- (a)  $27q^2$                       (b)  $54q^2$                       (c)  $36q^2$                       (d)  $18q^2$

(xii) In a model of a ship the mast is 9 cm high while the mast of the actual ship is 12 m high. If the length of the ship is 28 m then the length of the model ship is:

- (a) 9 cm                      (b) 21cm                      (c) 12 cm                      (d) 28 cm

## SECTION B

*Q 2 – 7 are very short answer type questions. Each question is of 2 marks.*

2. Factorise  $m^2 - 25$ .

3. Draw the labelled front view of the following figure:



4. Find the sum of  $p(p - q)$ ,  $q(q - r)$  and  $r(r - p)$ .

OR

Simplify  $x(x - 3) + 2$  and then evaluate for  $x = 1$ .

5. Find the number which should be multiplied by 392 to make it a perfect cube.
6. Navneet had ₹425 left after spending 75% of his money. How much money did he have ?
7. Divide  $z^2 - 4z - 12$  by  $(z - 6)$ .

### SECTION C

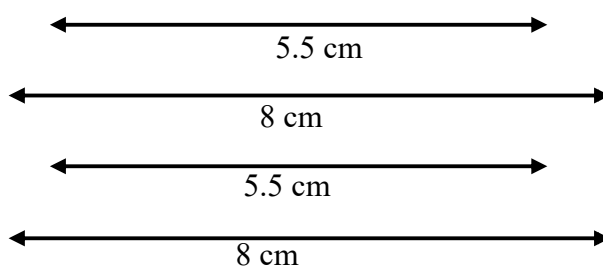
*Q 8 – 10 are short answer type questions. Each question is of 3 marks.*

8. Find the square root of 196 by repeated subtraction method.

OR

Check if 148 is a perfect square number by prime factorisation.

9. Name the quadrilaterals formed by following line segments and write one property of each of them.

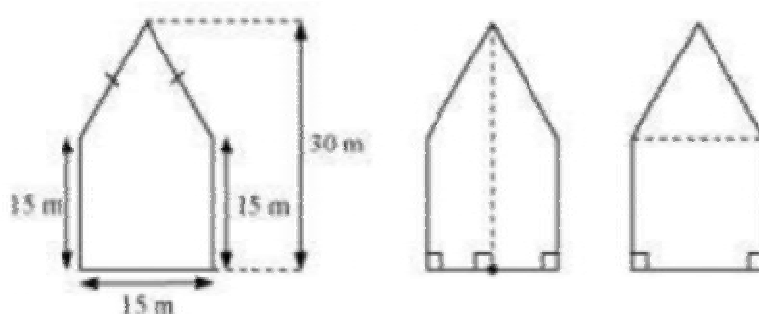


10. Factorise  $10ab + 4a + 5b + 2$ .

### SECTION D

*Q 11 – 13 are long answer type questions. Each question is of 5 marks.*

11. A pentagon is divided into two ways as shown in figure:



Calculate the area of this pentagon by both ways.

12. Aniket deposited an amount of ₹50000 in a bank. The bank offers the 10% rate of interest compounded annually. How much interest will Aniket get after one year? Also find
  - (i) Principal for second year
  - (ii) Compound interest after 4 years

OR

On the occasion of Diwali, Sudha offers a discount of 20% on all the items at her shop. Still she makes a profit of 14%. What is the cost price of an article marked at ₹350?

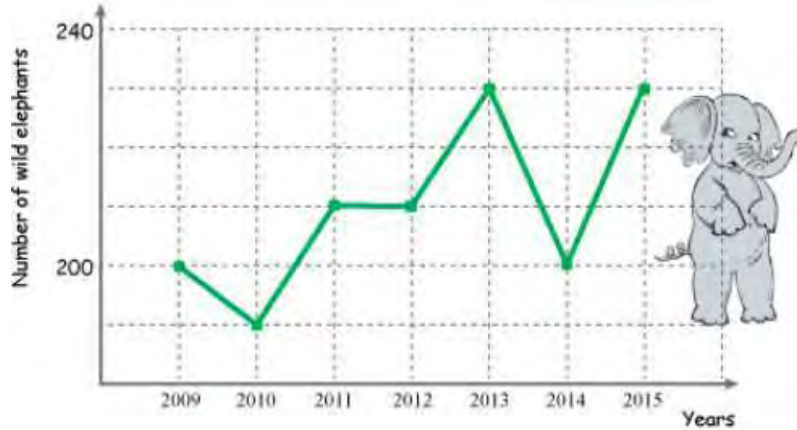
13. The following table shows the distance travelled by a car at different times during a day:

Time	9 am	10 am	11 am	12 noon	1 pm
Distance travelled(in km)	50	150	200	250	275

Draw the graph for the above information.

OR

The government counted the number of elephants in the forest during the years and represented it graphically as shown below:

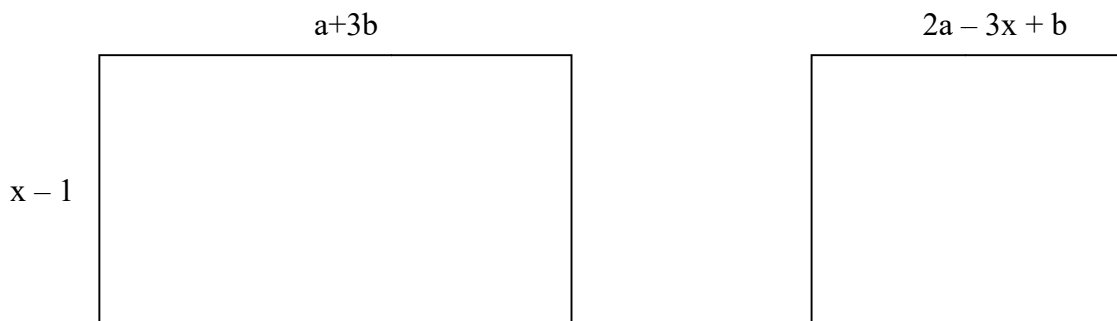


- (i) During which consecutive years, the equal number of elephants were counted? 1
- (ii) Find the ratio of the number of elephants in the year 2013 to that of 2014. 2
- (iii) Find the difference between the maximum and minimum number of elephants counted. 2

### SECTION E

*Q 14 – 16 are case based questions. Each question is of 4 marks.*

14. To test the ability of students on the topic of algebra, the teacher drew a rectangle and a square on the blackboard and mark their sides in the form of algebraic expressions as shown below:



Based on the above information, answer the following questions:

- (i) Write the algebraic expression for the area of square. 1
- (ii) Find the difference between length and breadth of rectangle. 1
- (iii) Find the side of square at  $a=5$ ,  $b=1$  and  $x=3$ . 2

OR

Find the area of the rectangle at  $a=5$ ,  $b=1$  and  $x=3$ .

15. Cross country is a running event in which runners completed a pre-decided distance. It includes different activities in which runner cover different environments. A cross country running event of 11 kilometers is as follows:

Activity	Distance(in km)
Running on paved road	3
Running on unpaved road	2
Hill climbing	2
Mud run	1
Running in woods	2
Crossing water bodies	1

Based on the above information, answer the following questions:

- (i) What fraction of the total distance is the hill climbing? 1
- (ii) Which event has the distance same as of mud run? 1
- (iii) What fraction of the total distance is the distance covered on paved and unpaved roads? 2

OR

How much fraction of the total distance is covered by running in woods, crossing water bodies and mud run?

16. Water board supplies 10,8000 litre of water in a colony having 200 houses. On Monday, the water was supplied to 120 houses of the colony while on Saturday, only 1,00,000 litres of water was available to supply.



Based on the above information, answer the following questions:

- (i) What kind of proportion is between amount of water each house get and number of houses? 1
- (ii) How much litre of water did each house get ? 1
- (iii) How much water is supplied on Monday? 2

OR

How many houses did get water on Saturday?