RK VISION ACADEMY

NEET | IIT – JEE | FOUNDATION

CBSE PRACTICE PAPER(2024)

(Mathematics)

Grade : X **Marks: 40 marks**

Chapter: LINEAR EQUATIONS Set 2 **Time: 90 minutes**

SECTION A

(This section comprises of Multiple-choice questions (MCQ) of 1 mark each.)

1. The father's age is six times his son's age. Four years hence, the age of the father will be four times his son's age. The present ages, in years, of the son and the father are, respectively

(A) 4 and 24 (B) 5 and 30 (C) 6 and 36 (D) 3 and 2

2. The pair of equations 5x – 15y = 8 and 3x – 9y = 24/5 has

(A) one solution (B) two solutions (C) infinitely many (D) no solution

3. The sum of the digits of a two-digit number is 9. If 27 is added to it, the digits of the number get reversed. The number is

(A) 25 (B) 72 (C) 63 (D) 36

4. Graphically, the pair of equations 6x – 3y + 10 = 0 2x – y + 9 = 0 represents two lines which are

(A) intersecting at exactly one point. (B) intersecting at exactly two points. (C) coincident. (D) parallel.

5. The pair of equations x + 2y + 5 = 0 and –3x – 6y + 1 = 0 have

(A) one solution (B) two solutions (C) infinitely many (D) no solution

6. The pair of equations x = a and y = b graphically represents lines which are

(A) parallel (B) intersecting at (b, a) (C) coincident (D) intersecting at (a, b)

7. The pair of equations y = 0 and y = –7 has

(A) one solution (B) two solutions (C) infinitely many (D) no solution

8. If a pair of linear equations is consistent, then the lines will be

(A) parallel (B) always coincident (C) intersecting or (D) always intersecting

9. A pair of linear equations which has a unique solution x = 2, y = –3 is

(A) $x + y = -1$, $2x - 3y = -5$ (B) $2x + 5y = -11$, $4x + 10y = -22$ (C) $2x - y = 1$, $3x + 2y = 0$ (D) $x - 4y - 14 = 0$, $5x - y - 13 = 0$

10. Assertion (A) 4x + 3y = 18 is a line which is parallel to X-axis.
Reason (R) The graph of linear equation ax = b, where a ≠ 0 is parallel to X-axis.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A). (c) Assertion (A) is true but Reason (R) is false. (d) Assertion (A) is false but Reason (R) is true.

SECTION B

(This section comprises of very short answer type-questions (VSA) of 2 marks each.)

11 The difference between two numbers is 26 and one number is three times the other number. Find the numbers.

12 Two numbers are in the ratio 5 : 6. If 8 is subtracted from each of the numbers, the ratio becomes 4 : 5, then find the numbers.

13 : Solve the following pair of linear equations: 21x + 47y = 110 47x + 21y = 162

SECTION C

(This section comprises of short answer type questions (SA) of 3 marks each)

14 8 chairs and 5 tables for a classroom cost ₹ 10500, while 5 chairs and 3 tables cost ₹ 6450. Find the cost of each chair and that of each table.

15 Three chairs and two tables cost ₹ 1850. Five chairs and three tables cost ₹ 2850. Find the cost of seven chairs and three tables.

16 The sum of a two-digit number and the number obtained by reversing the digits is 66. If the digits of the number differ by 2. Find the number. How many such numbers are there?

SECTION D

(This section comprises of long answer-type questions (LA) of 5 marks each)

17 Draw the graphs of the equations x – y + 1 = 0 and 3x + 2y – 12 = 0. Determine the coordinates of the vertices of the triangle formed by these lines and the X-axis and shade the triangular region.

18 The area of a rectangle gets reduced by 9 sq units, if its length is reduced by 5 units and breadth is increased by 3 units. If we increase the length by 3 units and the breadth by 2 units, then the area increased by 67 sq units. Find the dimensions of the rectangle.

19 Jamila sold a table and a chair for Rs 1050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got Rs 1065. Find the cost price of each