

CLASS TEST

CLASS: IX

SUBJECT: MATHEMATICS

CHAPTER 4: LINEAR EQUATION IN TWO VARIABLES

Maximum Marks: 16

Time: 35 minutes

A. Choose the correct option: [$1 \times 3 = 3$]

1. The value of k for which $x = 2, y = 3$ is a solution of the equation $3x + 2y = k$ is

- (a) 7 (b) -12 (c) 12 (d) 0

2. Which of the following linear equation represents a straight line parallel to x - axis and at a distance 8 unit in the +ve direction of y - axis?

- (a) $x = 8$ (b) $y = -8$ (c) $x + y = 8$ (d) $y = 8$

3. Any point on the line $y = -x$ will be of the form –

- (a) (k, k) (b) $(-k, 0)$ (c) $(k, -k)$ (d) $(-k, -k)$

B. Assertion – Reason Based Problems: [$1 \times 2 = 2$]

1. **Assertion (A) :** The graph of the linear equation $3x + y = 0$ is a straightline passing through origin.

Reason (R): A linear equation $ax + by + c = 0$, where a, b, c are real numbers represents a straightline graphically.

2. **Assertion(A):** The point $(3, -1)$ is a solution of $3x + 2y = 5$

Reason(R): A point will be a solution of a linear equation if it satisfies the equation.

C. Short answer type questions: [$2 \times 2 = 4$]

1. If $x = 1, y = 6$ is a solution of the equation $8x - ay + a^2 = 0$, then find the values of a .

2. Write two solutions of the equation $3x + 4y + 12 = 0$.

D. Plotting the graph of linear equation in two variables: [3 marks]

Draw the graph of $2x + 3y = 12$ and $5y - 4x - 20 = 0$ on the same graph paper and find the coordinates of the point where two lines intersect.

E. Case Study based problem: [4 marks]

A school is organizing a charity fair. Students are selling handmade greeting cards and small decorative items. Each greeting card is priced at ₹12, and each decorative item is priced at ₹35. On the first day, the total revenue collected from these two items was ₹425.

- 1) If 'x' represents the number of greeting cards sold and 'y' represents the number of decorative items sold, frame a linear equation in two variables representing the total revenue. [1]
- 2) If the school sold 15 greeting cards, how many decorative items were sold? [1]
- 3) Can the number of decorative items sold be exactly thrice the number of greeting cards sold, given the total revenue? Justify your answer. [2]

