

BHARATH COACHING CENTRE

9th CBSE

Linear equations in two variables

Total: 40

Maths

Time: 1.30 hrs

SECTION – A

5 x 1 = 5

1. Write the condition under which the equation $ax + by + c = 0$ represents a linear equation in two variables.
2. How many solutions does the equation $y = 5x + 2$ have?
3. How many linear equations in x and y can be satisfied by $x = 1$ and $y = 2$?
4. In which quadrant the points represented by the positive solutions of the equation $ax + by + c = 0$ lie?
5. Write the form of any point lying on the y – axis.

SECTION – B

5 X 2 = 10

6. Check which of the following are solutions of the equation $3y - 2x = 1$. A. (4, 3) B. $(2\sqrt{2}, 3\sqrt{2})$
7. If the point $(-1, -5)$ lies on the graph of $3x = ay + 7$, then find the value of 'a'.
8. Draw the graph of the equation $x - 2y = 3$. From the graph, find the coordinates of the points when $x = 5$ and $y = 0$.
9. Draw the graphs of $y = x$ and $y = -x$ on the axis. Also, find the coordinates of the point where the two lines intersect.
10. How many solutions of equation $2x + 1 = x - 3$ are there: (a) on number line (b) in Cartesian plane

SECTION – C

3 X 3 = 9

11. The cost of a toy telephone is the same as cost of 4 balls. Express the statement as a linear equation in two variables. Also, find the cost of getting 2 toy telephones packed, if cost of ball is ₹ 5 and there is a fixed cost of ₹ 2 for packing a toy telephone.
12. Draw the graph of $\frac{x}{3} + \frac{y}{5} = 1$. Find the points where the line meets the axes.
13. Solve for x : $\frac{7x-1}{4} - \frac{1}{3}\left(2x + \frac{x-1}{2}\right) = 6\frac{1}{3}$

SECTION – D

4 X 4 = 16

14. The cost of a table is Rs y and cost of a chair is Rs x . If the cost of the table is represented by $y = \frac{200+2x}{2}$, draw the graph of the equation.
 - i) Find the cost of the table, if the cost of the chair is Rs 100.
 - ii) What is the cost of the chair, if cost of the table is Rs 400?
15. Two years later, a father will be the eight years more than three times the age of the son. Taking the present age in years of father and son as x and y respectively.
 - a) Write a linear equation for above and draw its graph.
 - b) From the graph, find the age of father, when son's age is 10 years.
16. The Coordinates of points given in the following table represent some of the solutions of the equation $y = \frac{3}{2}x - 1$. Find the missing values. Also, find the coordinates of the points where the line cuts x – axis and y – axis.

X	2			-10	1	
Y		-4	8			$\frac{5}{2}$

17. The cost of a shirt of a particular brand is Rs 1000. Write a linear equation when the cost of x number of shirts is Rs y. Draw the graph of this equation and find the cost of 12 such shirts from the graph.