WORKSHEET 4

1. The equation $3x = 2$ is written in two variables as
   (a) $3x + y = 2$ (b) $3xy = 2$ (c) $3x = 2y$ (d) $3x + 0 \cdot y = 2$

2. The equation $4x - 7 = y$ has
   (a) no solution   (b) infinitely many solutions
   (c) unique solution   (d) exactly two solutions

3. Any point on the line $y = x$ is of the form
   (a) (a, a) (b) $(0, a)$ (c) $(0, -a)$ (d) $(a, -a)$

4. The graph of the linear equation $3x = 5$ is
   (a) parallel to x-axis   (b) parallel to y-axis
   (c) lies along x-axis   (d) passes through origin

5. The graph of the linear equation $3x = 15 - 5y$ cuts the axis at the point
   (a) $(5, 0)$ (b) $(3, 0)$ (c) $(0, 5)$ (d) $(0, 3)$

6. If $(2, 0)$ is a solution of the linear equation $2x + 3y - k = 0$, then the value of k is
   (a) 6   (b) 4   (c) 2   (d) 8

7. A linear equation $3x + 4y - 7 = 0$ has a unique solution. State true and false and justify your answer.

8. Draw the graph of the following:
   (i) $x = 3$ (ii) $y = -2$

9. Draw the graph of the equation $2x = 6 - y$. Find the coordinates of the point, where the graph cuts the x-axis.

10. The cost of petrol in a city is ₹ 70 per litre. Set up a linear equation with x representing the number of litres and y representing the total (in ₹).

11. The taxi fare in a city is as follows:

    For the first kilometre, the fare is ₹ 8 and for the subsequent distance it is ₹ 5 per km. Taking the distance covered as x km and total fare as ₹ y, write a linear equation for this information and draw its graph.

12. The cost of a pen is twice the cost of a pencil. Write a linear equation in two variables to represent this statement.

13. Express x in terms of y, given that $3x = 6 - 4y$. Check whether the point $(3, 2)$ is on the given line.

14. Find the value of β in the equation $\beta x + y = 5$ if $x = 2$ and $y = 3$.

15. Rajesh is half of this father's age. Twenty years ago the age of father was six times that of Rajesh. Find the age of Rajesh and his father.

16. For the first km, the fare is ₹ 5 and for successive distance it is ₹ 2 per km. Taking distance covered as x and total fare as ₹ u, write a linear equation.

17. Show that the points A(1, 2), B(–1, –16) and C(0, –7) lie on the graph of linear equation $y = 9x - 7$.

18. Draw the graph of the linear equation $3x + 4y = 6$. At what points, the graph cuts the x-axis and the y-axis.

19. The runs scored by two batswomen in a cricket match is 164. Write a linear equation in two variables x and y. Also write a solution of the equation formed.

20. If $y = 9$ when $x = 3$ and y varies directly as x, then write linear equation. Also find the value of y if $x = 40$.

Name: ....   Teacher's signature: ....

Class: .... IX ....   Date: ....

ANSWERS

WORKSHEET 4

1. (d) $3x + 0 \cdot y = 2$ 2. (b) Infinitely many solutions   3. (a) (a, a) 4. (b) parallel to y-axis

5. (a) $(5, 0)$ 6. (b) 4   7. False   9. $(3, 0)$ 10. $y = 70x$ 11. $y = \dfrac{2x - 7}{5}$, No

12. $x = 2y$ where x = cost of pen, y = cost of pencil   14. $\beta = 1$ 15. 25 years, 50 years

16. $y = 5 + 2(x - 1)$ 17. All the three points satisfy the linear equation $y = 9x - 7$

18. The graph cuts x-axis by putting $y = 0$ and y-axis at $\left(0, \dfrac{3}{2}\right)$ by putting $x = 0$.

19. $x + y = 164$ 20. $y = 3x$, when $x = 4$, then $y = 12$.