

SUBJECT- MATHEMATICS

CLASS-IX

CHAPTER NUMBER - 4

CHAPTER NAME - LINEAR EQUATIONS IN TWO VARIABLES

WORKSHEET : 1

- Express the following linear equations in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case:
 - $x - \frac{y}{5} - 10 = 0$
 - $y - 2 = 0$
- Cost of a pen is two and half times the cost of pencil. Express this situation as a linear equation in two variables.
- If the point $(3, 4)$ lies on the graph of the equation $3y = ax + 7$, find the value of a .
- Show that the points $A(1, 2)$, $B(-1, -16)$ and $C(0, -7)$ lie on the graph of the linear equation $y = 9x - 7$.
- Find m , if point $(7, -3)$ lies on the equation $(y - \frac{3}{7}) = m(x - \frac{2}{7})$.
- A fraction becomes $\frac{1}{3}$, if 2 is added to both numerator and denominator. If 3 is added to both numerator and denominator it becomes $\frac{2}{5}$. Assuming the original fraction to be $\frac{x}{y}$, form a pair of linear equations in two variables for the problem find the fraction.
- If $(p, 2p + 1)$ is a solution of the linear equation $4x + 3y = 23$. Find the value of p .
- Find the value of k , if $(1, -1)$ is a solution of the equation $3x - ky = 8$. Also, find the coordinates of another point lying on its graph.

In some countries temperature is measured in Fahrenheit, whereas in countries like India it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius:

$$F = \left[\frac{9}{5}\right]C + 32$$

If the temperature is -40°C , then what is the temperature in Fahrenheit?

9. The taxi fare in a city is as follows: For the first kilometre, the fare is Rs 8 and for the subsequent distance it is Rs 5 per km. Taking the distance covered as x km and total fare as Rs. y , write a linear equation for this information, and draw its graph.

ANSWERS:

1. (i) $a = 5, b = -1, c = -50$

(ii) $a = 0, b = 1, c = -2$

2. $2x - 5y = 0$

3. $a = \frac{5}{3}$

4. Graph

5. $m = \frac{-24}{47}$

6. $\frac{1}{7}$

7. $p = 2$

8. $(6, 2)$

9. $F = -40^\circ$

10. $y = 5x + 3$