

Mathematics

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(Chapter – 4)(Linear Equations in two Variables)

(Class – 9)

Exercise 4.1

Question 1:

The cost of a notebook is twice the cost of a pen. Write a linear equation in two variables to represent this statement. (Take the cost of a notebook to be ₹ x and that of a pen to be ₹ y).

Answer 1:

Here, the cost of notebook = ₹ x and the cost of pen = ₹ y

According to question, Cost of notebook = $2 \times$ Cost of Pen

$$\Rightarrow x = 2y \quad \Rightarrow x - 2y = 0$$

Question 2:

Express the following linear equations in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case:

(i) $2x + 3y = 9.3\bar{5}$

(ii) $x - \frac{y}{5} - 10 = 0$

(iii) $-2x + 3y = 6$

(iv) $x = 3y$

(v) $2x = -5y$

(vi) $3x + 2 = 0$

(vii) $y - 2 = 0$

(viii) $5 = 2x$

Answer 2:

(i) $2x + 3y = 9.3\bar{5}$

$$\Rightarrow 2x + 3y - 9.3\bar{5} = 0$$

Hence, here $a = 2$, $b = 3$ and $c = -9.3\bar{5}$.

(ii) $x - \frac{y}{5} - 10 = 0$

$$\Rightarrow x - \frac{1}{5}y - 10 = 0$$

Hence, here $a = 1$, $b = -\frac{1}{5}$ and $c = -10$.

(iii) $-2x + 3y = 6$

$$\Rightarrow -2x + 3y - 6 = 0$$

Hence, here $a = -2$, $b = 3$ and $c = -6$.

(iv) $x = 3y$

$$\Rightarrow x - 3y + 0 = 0$$

Hence, here $a = 1$, $b = -3$ and $c = 0$.

(v) $2x = -5y$

$$\Rightarrow 2x + 5y + 0 = 0$$

Hence, here $a = 2$, $b = 5$ and $c = 0$.

(vi) $3x + 2 = 0$

$$\Rightarrow 3x + 0y + 2 = 0$$

Hence, here $a = 3$, $b = 0$ and $c = 2$.

(vii) $y - 2 = 0$

$$\Rightarrow 0x + 1y - 2 = 0$$

Hence, here $a = 0$, $b = 1$ and $c = -2$.

(viii) $5 = 2x$

$$\Rightarrow 2x + 0y - 5 = 0$$

Hence, here $a = 2$, $b = 0$ and $c = -5$.

