

RD SHARMA

Solutions

Class 9 Maths

Chapter 13

Ex 13.1

Q 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:

(i) $-2x + 3y = 12$ (ii) $x - y/2 - 5 = 0$ (iii) $2x + 3y = 9.35$ (iv) $3x = -7y$ (v) $2x + 3 = 0$ (vi) $y - 5 = 0$

(vii) $4 = 3x$ (viii) $y = x/2$;

A 1 :

(i) We are given

$$-2x + 3y = 12$$

$$-2x + 3y - 12 = 0$$

Comparing the given equation with $ax + by + c = 0$

We get, $a = -2$; $b = 3$; $c = -12$

(ii) We are given

$$x - y/2 - 5 = 0$$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 1$; $b = -1/2$, $c = -5$

(iii) We are given

$$2x + 3y = 9.35$$

$$2x + 3y - 9.35 = 0$$

Comparing the given equation with $ax + by + c = 0$

We get, $a = 2$; $b = 3$; $c = -9.35$

(iv) We are given

$$3x = -7y$$

$$3x + 7y = 0$$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 3$; $b = 7$; $c = 0$

(v) We are given

$$2x + 3 = 0$$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 2$; $b = 0$; $c = 3$

(vi) We are given

$$y - 5 = 0$$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 0$; $b = 1$; $c = -5$

(vii) We are given

$$4 = 3x$$

$$3x-4=0$$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 3$; $b = 0$; $c = -4$

(viii) We are given

$$Y = x/2$$

Taking L.C.M $\Rightarrow x - 2y = 0$

Comparing the given equation with $ax + by + c = 0$,

We get, $a = 1$; $b = -2$; $c = 0$

Q 2: Write each of the following as an equation in two variables:

(i) $2x = -3$ (ii) $y=3$ (iii) $5x = 7/ 2$ (iv) $y = 3/2x$

A 2:

(i) We are given,

$$2x = -3$$

Now, in two variable forms the given equation will be

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

(ii) We are given,

$$y=3$$

Now, in two variable forms the given equation will be

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

(iii) We are given,

$$5x = -7/2$$

Now, in two variable forms the given equation will be

$$5x + 0y + 7/2 = 0$$

$$10x + 0y - 7 = 0$$

(iv) We are given,

$$y = \frac{3}{2}x \quad \text{(Taking L.C.M on both sides)}$$

Now, in two variable forms the given equation will be

$$3x - 2y + 0 = 0$$

Q 3: The cost of ball pen is Rs 5 less than half of the cost of fountain pen. Write this statement as a linear equation in two variables.

A 3:

Let the cost of fountain pen be y and cost of ball pen be x .

According to the given equation, we have

$$x = \frac{y}{2} - 5$$

$$\Rightarrow 2x = y - 10$$

$$\Rightarrow 2x - y + 10 = 0$$

Here y is the cost of one fountain pen and x is that of one ball pen.