Class 9th [NCERT maths Sol.]
Chapter 4- Linear equations in two variables [Solutions]

Exercise - 4.1

Q.1

Sol→ Let the cost of notebook be ₹x
Cost of Pen be ₹y

Given that Cost of notebook = 2 (cost of pen) So,

$$\boxed{x = 2y}$$

∴ Linear equation in two variable =

$$\boxed{x - 2y + 0 = 0}$$

Q.2

Sol→ (i) $2x + 3y = \cancel{9.35}\ 9.3\bar{5}$

$$\boxed{2x + 3y + (-9.3\bar{5}) = 0}, \quad a = 2,\ b = 3,\ c = -9.3\bar{5}$$

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

$$\boxed{-2x + 3y + (-6) = 0}, \quad a = -2,\ b = 3,\ c = -6$$

(v) $2x = -5y$

$\boxed{2x + 5y + 0 = 0}$ $a = 2, b = 5, c = 0$

(vi) $y - 2 = 0$

$\boxed{0x + y + (-2) = 0}$ $a = 0, b = 1, c = -2$

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

Sol → $x - \frac{y}{5} - 10 = 0$

$\boxed{x - \frac{1}{5}y - 10 = 0}$, $a = 1, b = \frac{-1}{5}, c = -10$

(iv) $x = 3y$

Sol → $\boxed{x - 3y + 0 = 0}$, $a = 1, b = -3, c = 0$

(vi) $3x + 2 = 0$

Sol → $\boxed{3x + 0y + 2 = 0}$, $a = 3, b = 0, c = 2$

(viii) $5 = 2x$

Sol → $-2x + 5 = 0$

$\boxed{-2x + 0y + 5 = 0}$, $a = -2, b = 0, c = 5$

Teacher's Signature .....

Exercise 6.2 [Linear Equations in two variables].

Q.1

Sol→ $y = 3x + 5$ has infinitely many solutions as any number can be replaced for the value of x & y.

Q.2

(i) Sol→ Let $x = 0$, in $2x + y = 7$

$2(0) + y = 7$

$\boxed{y = 7}$

∴ $(0, 7)$ – (i) solution

Let $y = 0$,

$2(x) + 0 = 7$

$2x = 7$

$\boxed{x = \frac{7}{2}}$

∴ $\left(\frac{7}{2}, 0\right)$ – (ii) solution

Let $x = 1$

$2(1) + y = 7$

$2 + y = 7$

$\boxed{y = 5}$

∴ $(1, 5)$ – (iii) solution

Let $y = 1$

$2x + 1 = 7$

$2x = 6$

$\boxed{x = 3}$

∴ $(3, 1)$ – (iv) solution

(ii)

Sol→ Let, $x = 0$, in $\pi x + y = 9$

$\pi(0) + y = 9$

$\boxed{y = 9}$

∴ $(0, 9)$ – (i) solution

Let $y = 0$

$\pi(x) + 0 = 9$

$\pi x = 9$

$\boxed{x = \frac{9}{\pi}}$

$\left(\frac{9}{\pi}, 0\right)$ – (ii) solution

Page No.
Date : / /20

Let $x = 1$

$\pi(1) + y = 9$

$\pi + y = 9$

$\boxed{y = 9 - \pi}$

$\therefore (1, 9 - \pi)$ - (iii) Sol.

Let $y = 1$

$\pi x + 1 = 9$

$\pi x = 8$

$\boxed{x = \frac{8}{\pi}}$

$\left(\frac{8}{\pi}, 1\right)$ - (iv) Solution

(iii) Sol → Let $x = 0$ in $x = 4y$ or $x - 4y = 0$

$(0) - 4y = 0$

$4y = 0$

$\boxed{y = 0}$

$(0, 0)$ - (i) Solution

Let $y = 1$, in $x = 4y$ or $x - 4y = 0$

$x - 4(1) = 0$

$x - 4 = 0$

$\boxed{x = 4}$

$\therefore (4, 0)$ - (ii) Solution

Let $x = 1$

$1 - 4y = 0$

$+4y = +1$

$\boxed{y = \frac{1}{4}}$

$\therefore \left(1, \frac{1}{4}\right)$ - (iii) Solution

Let $x = 4$

$4 - 4(y) = 0$

$+4(y) = +4$

$\boxed{y = 1}$

$\therefore (4, 1)$ - (iv) Solution

Teacher's Signature .....

Q.3

(i) Sol→ (0,2) in $x-2y=4$

$0-2(2)=4$

$-4 \neq 4$ Not.

(ii) Sol→ (2,0) in $x-2y=4$

$2-2(0)=4$

$2 \neq 4$ Not

(iii) Sol→ (4,0) in $x-2y=4$

$4-2(0)=4$

$4=4$ Yes

(iv) Sol→ (1,1) in $2x-y=4$

$1-2(1)=4$

$1-2=4$

$-1 \neq 4$ Not

(v) $(\sqrt{2}, 4\sqrt{2})$ in $x-2y=4$

Sol→ $x=\sqrt{2}, y=4\sqrt{2}$

putting in eq. $x-2y=4$

$\sqrt{2}-2(4\sqrt{2})=4$

$1\sqrt{2}-8\sqrt{2}=4$

$-7\sqrt{2} \neq 4$

Hence, it isn't a sol. of eq. $x-2y=4$

Q.4

Sol→ $x=2, y=1$ is a solution of eq. $2x+3y=k$

Find value of k.

$2(2)+3(1)-k=0$

$4+3-k=0$

$7-k=0$

$+k=+7$

$k=7$