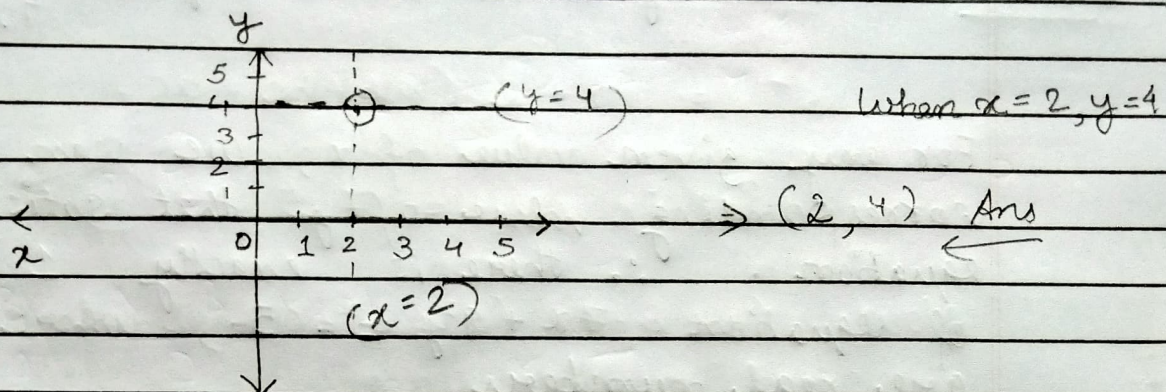


Aptitude - Assignment 1Sol 1.

Sol 2. $2x + 3y = 9$ — (i), $7x + 9y = -6$ — (ii)

eq (i) $\times 3$

$$6x + 3y = 27$$

eq (ii) $\times (-2)$

$$-14x - 18y = 12$$

(i) + (ii)

$$-8x - 9y = 39$$

OR $8x + 9y = -39$

$$8x + 9y = -39 \quad - \text{(iii)}$$

$$-7x + 9y = -6 \quad - \text{(ii)}$$

$$x = -33$$

$$2 \times (-33) + 3y = 9$$

$$y = 25$$

So, $x = -33$, $y = 25$ $(-33, 25)$ one unique solution.

Sol 3

$$7x + 9y = -5 \quad \text{or} \quad y = \left(-\frac{7}{9}\right)x - \frac{5}{9}$$

For any given value of x , we can compute corresponding value of y that satisfies the equation. \therefore there is exactly 1 solution of equation $7x + 9y = -5$, where x & y are real numbers.

Sol 4

$ax^2 + bx + c = 0$ is true for all value of x when $0 = 0$.

Sol 5.

$$A : B = 2 : 3$$

$$A = 2x, \quad B = 3x$$

$$B's \text{ income} = 3000$$

$$\text{So, } 3x = 3000 \\ x = 1000$$

$$\therefore A's \text{ income is } 2x = \text{Rs } 2000$$

Let, expenditure of A be E_1 & B is E_2

\therefore A's expenditure can be expressed as

A's saving = 500

$$A(E_1) = 2x - 500 = \text{Rs } 1500$$

$$\therefore B's \text{ saving} = \text{Rs } 700$$

$$B(E_2) = 3x - 700 = 2300$$

$$\text{Ratio of expenditure } E_1 : E_2 = 1500 : 2300 \\ = 15 : 23 \quad \leftarrow \text{Ans}$$