

Aptitude Assignment 1

1. The equations of the lines $x=2$ & $y=4$ meet at the point

Solution:

The equations of the lines $x=2$ & $y=4$ is both vertical and horizontal lines, respectively. These lines intersect at a single point, which is the **point (2, 4)**.

2. Equations $2X+3Y=9$ & $7X+9Y=-6$ have how many solutions?

Solution: $x = -33$ and $y = 25$

Q2 → eq
 $2x + 3y = 9$ — eq (1)
 $7x + 9y = -6$ — eq (2)

eq (1) multiply by (-3) and add with eq (2)

$$\begin{array}{r} -6x - 9y = -27 \\ \oplus \quad 7x + 9y = -6 \\ \hline x + 0 = -33 \end{array}$$

$\therefore x = -33$

add x value in eq (1).

$$\begin{array}{r} 2(-33) + 3y = 9 \\ -66 + 3y = 9 \\ \therefore 3y = 9 + 66 \\ 3y = 75 \\ y = \frac{75}{3} \\ \boxed{y = 25} \end{array}$$

3. Equation $7x+9y=-5$ has how many keys?

Solution: NA

4. Equation $ax^2+bx+c=0$ will be for $a=b=c=0$.

Solution: zero(0) [LHS = RHS]

Q4 → $-ax^2 + bx + c = 0$ for solutions
 For $a=b=c=0$
 $(0)x^2 + (0)x + 0 = 0$

Answer (will) be = 0 (zero)

5. Income of A & B is in ratio 2:3. For example, if B's income is Rs 3000, find out the ratio of their expenditures if their savings are Rs 500 & Rs 700, respectively.

Solution : 15:23

Q5 → $A:B = 2:3$

Income of person A as $2x$

& Income of person B as $3x$

$$A:B = 2x:3x$$

∵ B income is Rs 3000

$$\text{then } 3x = 3000$$

$$x = 1000 \quad \text{--- eq (1)}$$

using eq (1) value put into expenditures of A & B

$$\text{Income of A} = 2x = 2(1000) = 2000$$

$$\begin{aligned} \text{Expenditure of A} &= \text{Income of A} - \text{saving of A} \\ &= 2000 - 500 \\ &= 1500 \text{ Rs} \end{aligned}$$

Same As

$$\text{Income of B} = 3x = 3(1000) = 3000$$

$$\begin{aligned} \text{Expenditure of B} &= \text{Income of B} - \text{saving B} \\ &= 3000 - 700 \\ &= 2300 \end{aligned}$$

So Expenditure of A : Expenditure of B
as expect $1500:2300$ --- (2)

eq (2) divide by 100

The ratio of Expenditure is 15:23