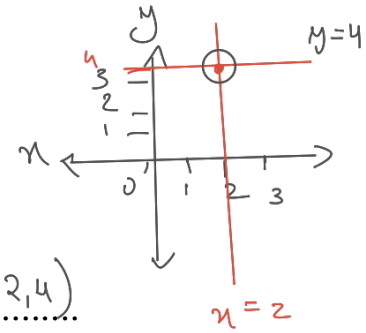
Aptitude Assignment 1



1. The equations of the lines x=2 & y=4 meet at the point ..... (2,4)
2. Equations 2X+3Y=9 & 7X+9Y=-6 have how many solutions? one solution (-33, 25)
3. Equation 7x+9y=-5 has how many keys? one
4. Equation ax^2+bx+c=0 will be true for all value of x. ..... for a=b=c=0 . → as 0=0
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. (15 : 23)

Q.2) Sol: $2x + 3y = 9$ — (1) $\quad 7x + 9y = -6$ — (2)

(1) × 3 $\qquad$ (2) × −2

$6x + 9y = 27 \qquad -14x - 18y = 12$

(1) + (2)

$-8x - 9y = 39$

or $\quad 8x + 9y = -39$

Now, we have

$8x + 9y = -39$ — (3)

$-\ 7x + 9y = -6$ — (2)

$x = -33$

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

$y = 25$

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

Q.3 Ans) $7x + 9y = -5$ $\quad$ or $y = (-7/9)x - 5/9$

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

Q.5. soln) $A : B = 2 : 3$

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

B's income = 3000

so $\quad 3x = 3000$

$x = 1000$

∴ A's income is $2x$ = Rs 2000

let expenditure of A be E_1 & B is E_2

∴ A's saving = 500 Rs

∴ A's expenditure can be expressed as

$A(E_1) = 2x - 500 =$ Rs 1500

∵ B's savings = 700 Rs.

$B(E_2) = 3x - 700 =$ Q 300

So ratio of expenditure

$E_1 : E_2 =$ 1500 : 2300

$= 15 : 23$ → Ans