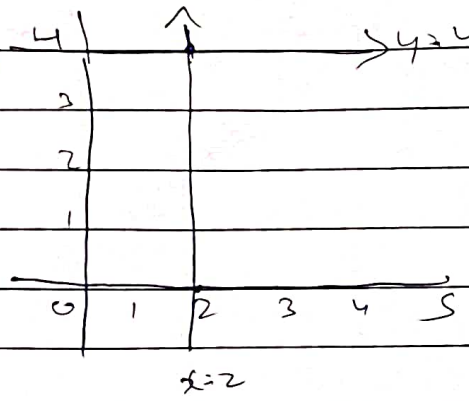
Aptitude assignment - 1

1. Equation of lines $x=2$ & $y=4$ meet at the Point ....

Sol:-



$x=2$ represents vertical line Parallel to y-axis & $y=4$ represents horizontal line Parallel to x-axis

∴ point of intersection = (2, 4)

2. $2x + 3y = 9 \rightarrow (1)$

$7x + 9y = -6 \rightarrow (2)$

multiplying eqn (1) by -3

$-6x - 9y = -27 \rightarrow (3)$

$7x + 9y = -6 \rightarrow (2)$

$x = -33$

Putting $x = -33$ in eqn (1)

$-66 + 3y = 9$

$3y = 9 + 66$

$y = \frac{75}{3} = 25$

So Equation has one unique solution. because coordinates are (-33, 25), so it will lie in Plane with one unique solution

3) $7x + 9y = -5$

$9y = -7x - 5$

$y = -\frac{7}{9}x - \frac{5}{9}$

$y = mx + c$

$m = -\frac{7}{9}$

Since it is non-zero slope, it will not be parallel to x & y-axis. the line will intersect at one point in plane

∴ eqn has one solution.

4) $ax^2 + bx + c = 0$

$a = b = c = 0$

$0x^2 + 0b + 0 = 0$

in this case, all the co-efficients of quadratic equation are 0, which means there are infinitely many solutions.

5) income of A : B = 2 : 3

Assume common multiplier x

A : B = 2x : 3x

Say B's income = 3000

∴ $3x = 3000$

$x = 1000$

A's income : $2x = 2 \times 1000 = 2000$

Savings A = 500, B = 700

A's expenditure : 2000 - 500 = 1500

B's expenditure : 3000 - 700 = 2300

∴ expenditure ratio : $\frac{1500}{2300} = \frac{15}{23}$