

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

The line with the equation $x = 2$ is a line passing through the point $(2, 0)$ and the line with the equation $y = 4$ is a horizontal line passing through the point $(0, 4)$.

The point where they intersect is the point that satisfies both equations

$$x = 2$$

$$y = 4$$

Therefore, the point of intersection is $(2, 4)$.

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

$$a_1/a_2=2/7$$

$$b_1/b_2=3/9=1/3$$

$$c_1/c_2=9/-6=-3/2$$

Since, a_1/a_2 is not equal to b_1/b_2 , Therefore this equation has a single solution.

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

This equation will become a trivial equation for $a=b=c=0$.

Since every value of x satisfies this equation, it has infinitely many solutions.

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.

$$A/B=2/3\text{-----Given}$$

$$\text{Person A's income is} = (2/3)*3000 = \text{Rs } 2000.$$

We are given that A's savings are Rs 500 and B's savings are Rs 700.

Let's assume the expenditure of person A is y , and the expenditure of person B is z .

$$y = 2000 - 500 = 1500$$

$$z = 3000 - 700 = 2300$$

Therefore, the ratio of their expenditures is $1500:2300 = 15:23$.