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

Ans: The equations x = 2 and y = four represent vertical lines passing via the points (2, y) and (x, four), respectively. Since both lines are vertical, they're parallel to the y-axis and do not intersect. Therefore, there's **no point of intersection** among these traces.

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

Ans: The system of equations 2X + 3Y = 9 and 7X + 9Y = -6 can be classified based on the number of solutions they have.

To determine the number of solutions, we can consider the slopes of the two lines represented by these equations. If the slopes are equal, the lines are parallel and there are no solutions. If the slopes are different, the lines will intersect at a single point, and there is one unique solution. However, there is also a possibility that the lines coincide, resulting in infinitely many solutions.

To find the slopes, we can rearrange the equations into slope-intercept form (Y = MX + B), where M represents the slope:

2X + 3Y = 9 ---> 3Y = -2X + 9 ---> Y = (-2/3)X + 3

7X + 9Y = -6 ---> 9Y = -7X - 6 ---> Y = (-7/9)X - (6/9) ---> Y = (-7/9)X - (2/3)

Comparing the coefficients of X in both equations, we see that (-2/3) is not equal to (-7/9), indicating that the slopes are different. Therefore, the lines represented by these equations will intersect at a single point, resulting in one unique solution.

In conclusion, the system of equations 2X + 3Y = 9 and 7X + 9Y = -6 has **one solution.**

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

Ans: The equation represents **a straight line**

Slope = 1.556/2.000 = **0.778**

x-intercept = 5/7 = **0.71429**

y-intercept = 5/-9 = **-0.55556**

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

Ans: The equation ax^2 + bx + c = 0 represents a quadratic equation.

If the values of a, b, and c are all equal to zero (a = b = c = 0), the equation becomes 0x^2 + 0x + 0 = 0.

In this case, the equation simplifies to 0 = 0, which is always true.

When all the coefficients of a quadratic equation are zero, the resulting equation is considered an identity rather than a quadratic equation with a specific solution. It means that for any value of x, the equation will hold **true.**

**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.**

Ans:

To find the income of A, we can set up the following proportion:

2/3 = Rs A/Rs 3000

Cross-multiplying, we get:

2 \* Rs 3000 = 3 \* Rs A

Rs 6000 = 3 \* Rs A

Rs A = Rs 6000 / 3

Rs A = Rs 2000

So, A's income is Rs 2000.

Now, let's calculate the expenditures of A and B.

A's expenditure = A's income - A's savings = Rs 2000 - Rs 500 = Rs 1500

B's expenditure = B's income - B's savings = Rs 3000 - Rs 700 = Rs 2300

The ratio of their expenditures is Rs 1500:Rs 2300

Therefore, the ratio of their expenditures is **15:23.**