Aptitude Assignment 1

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

Ans:

The equations x = 2 and y = 4 represent vertical lines that are parallel to the y-axis and x-axis, respectively. Since they are both vertical lines, they do not intersect or meet at any point. Therefore, there is no point of intersection for these two lines.

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

Ans:

To determine the number of solutions for the system of equations $2X + 3Y = 9$ and $7X + 9Y = -6$, we can analyze the determinant of the coefficient matrix.

The coefficient matrix of the system is:

| 2 3 |
| 7 9 |

To calculate the determinant of this matrix, we use the formula:

Determinant = (2 * 9) - (3 * 7)

Determinant = 18 - 21

Determinant = -3

The determinant is non-zero ($-3 \neq 0$), which means that the system of equations has a unique solution. Therefore, the system of equations $2X + 3Y = 9$ and $7X + 9Y = -6$ has exactly one solution.

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

Ans:

The equation 7x + 9y = -5 represents a straight line in the coordinate plane. The number of solutions depends on whether this line intersects with other lines or not.
It is not possible to determine the number of solutions for this single equation.

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

Ans:

If a = b = c = 0 in the quadratic equation ax^2 + bx + c = 0, it becomes:

0x^2 + 0x + 0 = 0.

This equation simplifies to:

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.
Ans:

Let's denote A's income as 2x and B's income as 3x, where x is a common factor.

Given that B's income is Rs 3000, we can set up the equation:
3x = 3000

Solving for x:
x = 3000 / 3
x = 1000

Now we know that A's income (2x) is 2 * 1000 = Rs 2000.

The savings for A and B are Rs 500 and Rs 700, respectively.

To find the ratio of their expenditures, we subtract the savings from their respective incomes:

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 1500:2300, which can be simplified by dividing both values by 100:

1500/100 = 15
2300/100 = 23

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