

# Linear Equations in Two Variables

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## 10<sup>th</sup> Maths - Chapter 3

This is Problem-4.1 from Exercise 3.2

1. On comparing the ratios  $\frac{a_1}{a_2}$ ,  $\frac{b_1}{b_2}$ ,  $\frac{c_1}{c_2}$ , find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincident:

$$9x+3y=-12$$

$$18x+6y=-24$$

### **Solution:**

This can also be written as:

$$\begin{pmatrix} 9 & 3 & -12 \\ 18 & 6 & -24 \end{pmatrix} \quad (1)$$

now, Making  $R_2 \rightarrow 2R_1 - R_2$   
we get,

$$\begin{pmatrix} 9 & 3 & -12 \\ 0 & 0 & 0 \end{pmatrix} \quad (2)$$

Since, we are getting zero in  $R_2$   
It is a dependent equation.