

# Linear equations in two variables

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

This is Problem-3.5 from Exercise 3.2

1. On comparing the ratios  $\frac{a_1}{a_2}, \frac{b_1}{b_2}$  and  $\frac{c_1}{c_2}$ , find out whether the following pairs of linear equations are consistent, or inconsistent  $\frac{4}{3}x = 2y + 8$ ;  $2x = 3y + 12$

**Solution:**

Given Data:

This can also be written as:

$$\mathbf{AX} = \mathbf{B} \quad (1)$$

$$\frac{\begin{vmatrix} b & a_2 \end{vmatrix}}{\begin{vmatrix} a_1 & a_2 \end{vmatrix}} = \frac{\begin{vmatrix} 4 & -10 \\ 10 & -1 \end{vmatrix}}{\begin{vmatrix} 1 & -1 \\ 1 & 1 \end{vmatrix}} \quad (2)$$

Ex of creating a matrix -  $\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$

Ex of using fraction and brak -  $\frac{(\mathbf{B}-\mathbf{A})(\mathbf{C}-\mathbf{B})^\top}{\|\mathbf{C}-\mathbf{B}\|^2}$

type your solutions using these commands