

Linear Equations in Two Variables

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10th Maths - Chapter 3

This is Problem-4.2 from Exercise 3.2

1. Which of the following pairs of linear equations are consistent/inconsistent?
If consistent, obtain the solution graphically:

(i) $x - y = 8$, $3x - 3y = 16$

Solution:

Given Data: $x - y = 8$

$3x - 3y = 16$

This can also be written as:

$$\begin{pmatrix} 1 & -1 & 8 \\ 3 & -3 & 16 \end{pmatrix} \quad (1)$$

now, Making $R_2 \rightarrow 3R_1 - R_2$
we get,

$$\begin{pmatrix} 1 & -1 & 8 \\ 0 & 0 & 8 \end{pmatrix} \quad (2)$$

these equations have no solution because they are inconsistent●