Linear Equations in Two Variables

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10th Maths - Chapter 3

This is Problem-4.1 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 = 5, 2x + 2y = 10

Solution:
Given Data:x + y = 5
2x + 2y = 10

This can also be written as:

$$\begin{pmatrix} 1 & 1 & 5 \\ 2 & 2 & 10 \end{pmatrix} \tag{1}$$

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

$$\begin{pmatrix} 1 & 1 & 5 \\ 0 & 0 & 0 \end{pmatrix} \tag{2}$$

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