

Mathematics

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(Chapter - 4)(Linear Equations in two Variables)

(Class - 9)

Exercise 4.4

Question 1:

Give the geometric representations of $y = 3$ as an equation

- (i) in one variable
- (ii) in two variables

Answer 1:

(i) Equation $y = 3$ can be represented in one variable on number line.



(ii) For two variables representation of $y = 3$, we will use Cartesian plane. Now the equation:

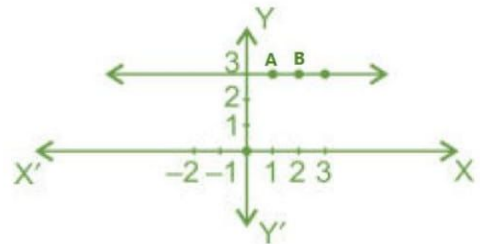
$$0 \cdot x + y = 3$$

$$\Rightarrow y = 3 - 0 \cdot x$$

Putting $x = 1$, we have, $y = 3 - 0 \cdot 1 = 3$

Putting $x = 2$, we have, $y = 3 - 0 \cdot 2 = 3$

Hence, A(1, 3) and B(2, 3) are the two solutions of the given equation.



Question 2:

Give the geometric representations of $2x + 9 = 0$ as an equation

- (i) in one variable
- (ii) in two variables

Answer 2:

(i) To represent the equation $2x + 9 = 0$ in one variable, we will use number line.

$$2x + 9 = 0$$

$$\Rightarrow x = -\frac{9}{2}$$



(ii) To represent the equation $2x + 9 = 0$ in two variable, we will use Cartesian plane. Now the equation:

$$2x + 0 \cdot y = -9$$

$$\Rightarrow x = \frac{-9 - 0 \cdot y}{2}$$

Putting $y = 1$, we have, $x = \frac{-9 - 0 \cdot 1}{2} = -\frac{9}{2}$

Putting $y = 2$, we have, $x = \frac{-9 - 0 \cdot 2}{2} = -\frac{9}{2}$

Hence, A(-9/2, 1) and B(-9/2, 2) are the two solutions of the given equation.

