

Solutions for Class 9 Maths Chapter 13 Linear Equations in Two Variables

Exercise 13.4

Question 1: Give the geometric representations of the following equations

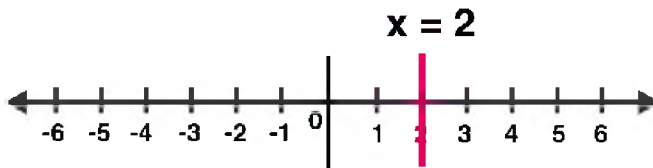
(a) on the number line (b) on the Cartesian plane:

(i) $x = 2$ (ii) $y + 3 = 0$ (iii) $y = 3$ (iv) $2x + 9 = 0$ (v) $3x - 5 = 0$

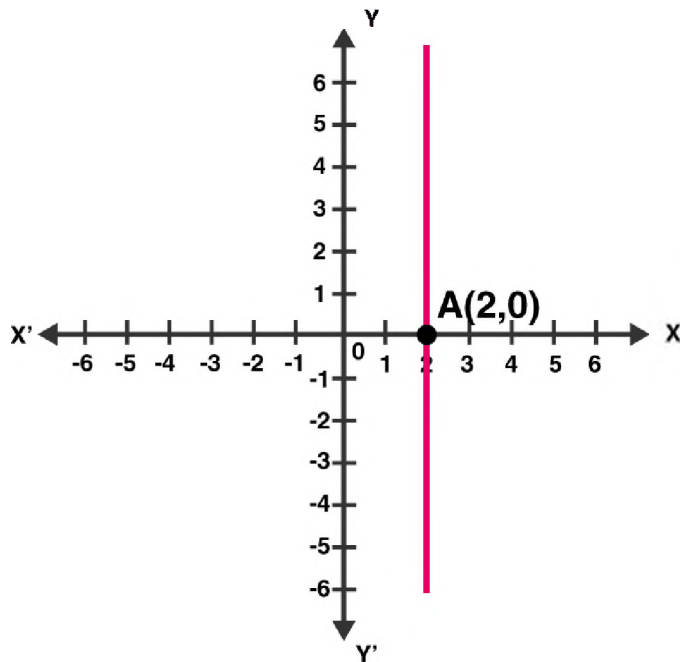
Solution:

(i) $x = 2$

The representation of equation on the number line:



The representation of equation on the Cartesian plane:

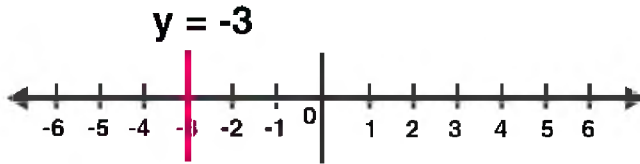


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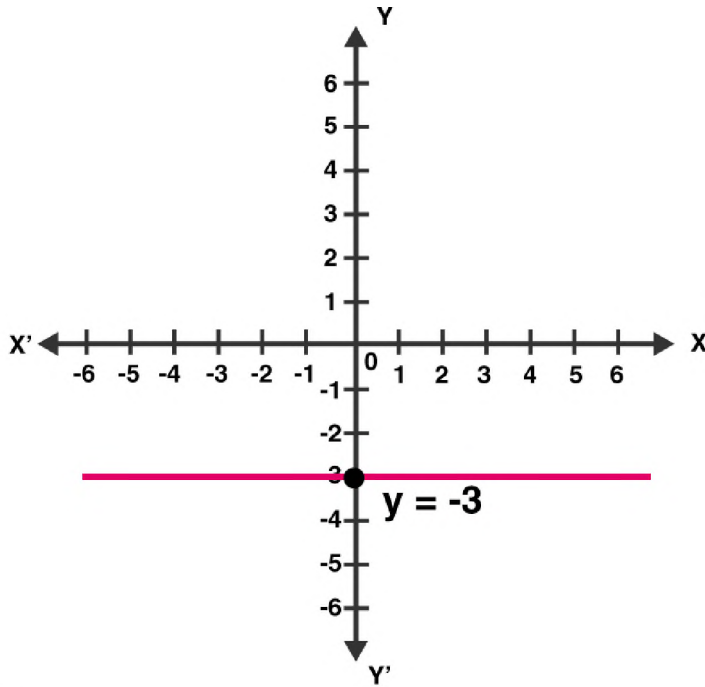
(ii) $y + 3 = 0$

or $y = -3$

The representation of equation on the number line:

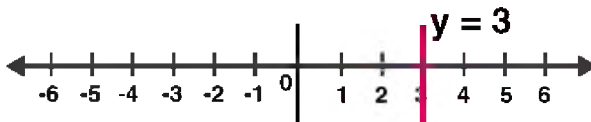


The representation of equation on the Cartesian plane:



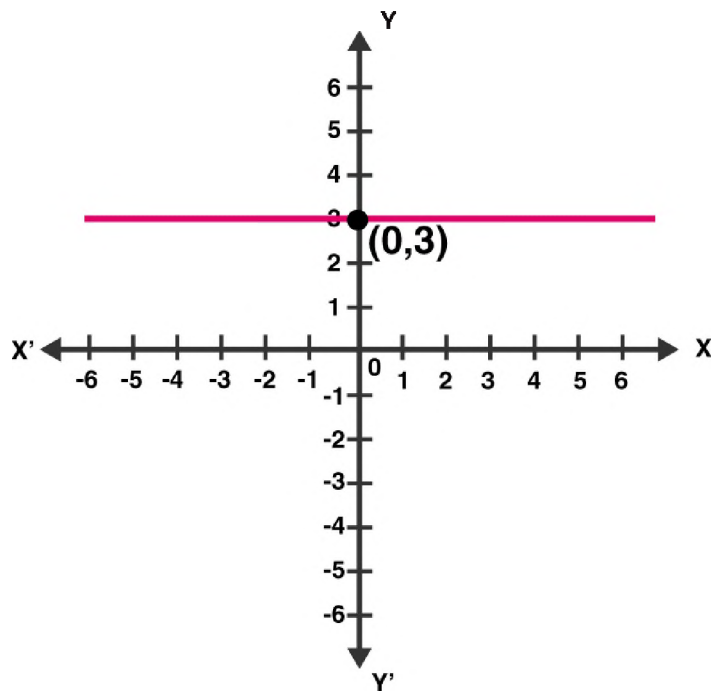
(iii) $y = 3$

The representation of equation on the number line:



The representation of equation on the Cartesian plane:

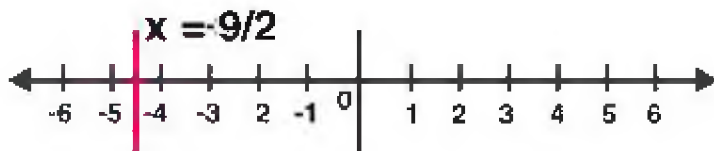
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(iv) $2x + 9 = 0$

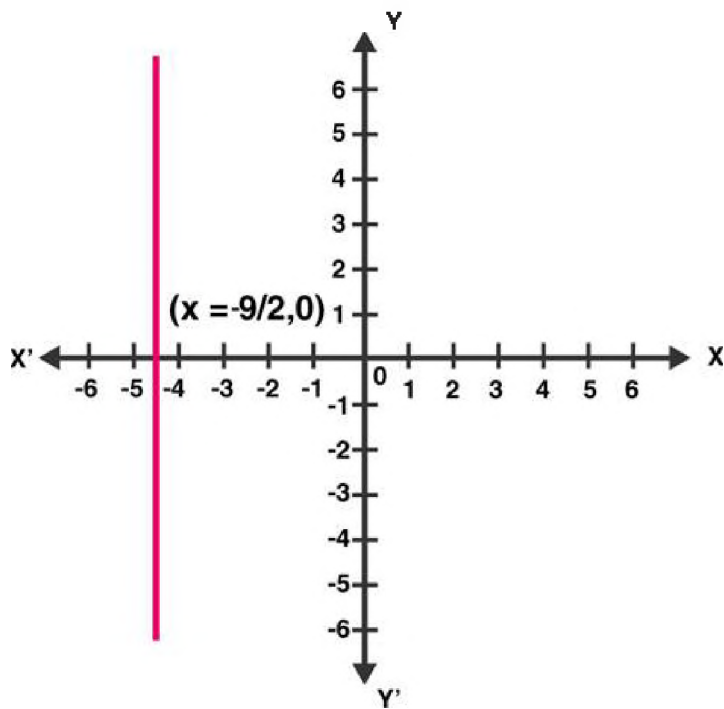
or $x = -9/2$

The representation of equation on the number line:



The representation of equation on the Cartesian plane:

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(v) $3x - 5 = 0$

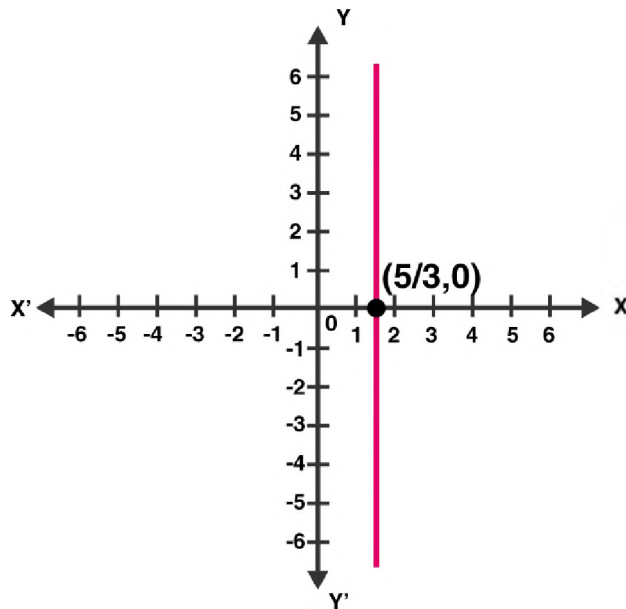
or $x = 5/3$

The representation of equation on the number line:



The representation of equation on the Cartesian plane:

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Question 2 : Give the geometrical representation of $2x + 13 = 0$ as an equation in

(i) one variable (ii) two variables

Solution:

$$2x + 13 = 0$$

(i) Isolate given equation in x

Subtract 13 from both the sides

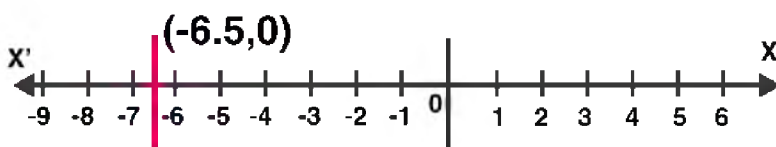
$$2x + 13 - 13 = 0 - 13$$

$$2x = -13$$

Divide each side by 2

$$x = -13/2 = -6.5$$

Which is an equation in one variable.



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(ii) $2x + 13 = 0$ can be written as $2x + 0y + 13 = 0$

The representation of the solution on the Cartesian plane: A line parallel to y axis passing through the point $(-13/2, 0)$:

