

VIDYA BHAWAN BALIKA VIDYA PITH

शक्तिउत्थानआश्रमलखीसरायबिहार

Class 09 Sub-.Maths

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1. Draw the graph of each of the following linear equations in two variables:

(i) $x+y = 4$

Solution:

To draw a graph of linear equations in two variables, let us find out the points to plot.

To find out the points, we have to find the values which x and y can have, satisfying the equation.

Here,

$$x+y = 4$$

Substituting the values for x,

When $x = 0$,

$$x+y = 4$$

$$0+y = 4$$

$$y = 4$$

When $x = 4$,

$$x+y = 4$$

$$4+y = 4$$

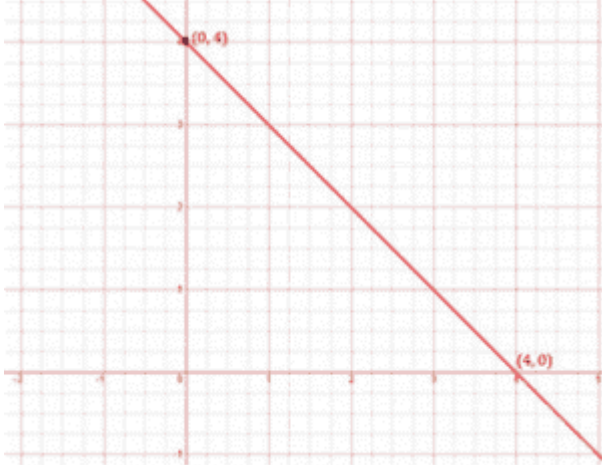
$$y = 4-4$$

$$y = 0$$

x	y
0	4

4	0
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The points to be plotted are (0, 4) and (4,0)



(ii) $x - y = 2$

Solution:

To draw a graph of linear equations in two variables, let us find out the points to plot.

To find out the points, we have to find the values which x and y can have, satisfying the equation.

Here,

$$x - y = 2$$

Substituting the values for x ,

When $x = 0$,

$$x - y = 2$$

$$0 - y = 2$$

$$y = -2$$

When $x = 2$,

$$x - y = 2$$

$$2 - y = 2$$

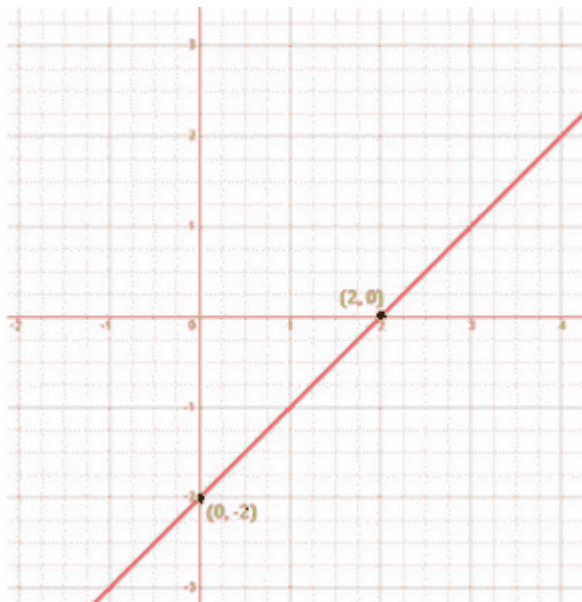
$$-y = 2 - 2$$

$$-y = 0$$

$$y = 0$$

x	y
0	-2
2	0

The points to be plotted are $(0, -2)$ and $(2, 0)$



(iii) $y=3x$

Solution:

To draw a graph of linear equations in two variables, let us find out the points to plot.

To find out the points, we have to find the values which x and y can have, satisfying the equation.

Here,

$$y = 3x$$

Substituting the values for x ,

When $x = 0$,

$$y = 3x$$

$$y = 3 \times 0$$

$$y = 0$$

When $x = 1$,

$$y = 3x$$

$$y = 3 \times 1$$

$$y = 3$$

x	y
0	0
1	3

The points to be plotted are $(0, 0)$ and $(1, 3)$