

Graphing Linear Equations

Here's an equation with two variables:

$$x + y = 3$$

Solutions to this equation can be written as ordered pairs:

Ex 1.

Determine whether $(-4, 3)$ is a solution to the equation $2x + 3y = 12$.

Ex 2.

Determine whether $(3, 2.5)$ is a solution to the equation $y = \frac{1}{2}x + 1$.

Ex 3.

Find three solutions for the equation $3x + y = 3$.

Ex 4.

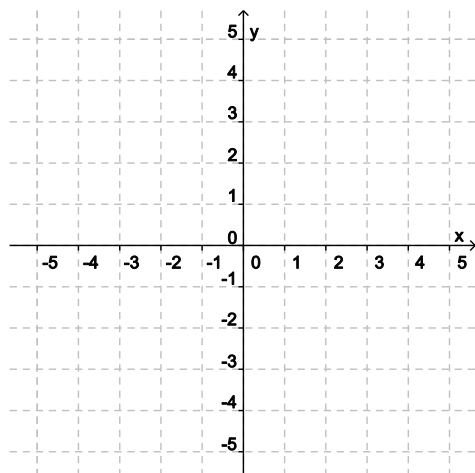
Find three solutions for the equation $y = \frac{1}{3}x + 4$.

Graphing Linear Equations

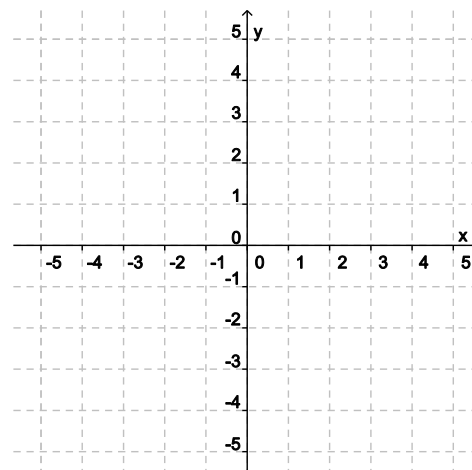
We can plot solutions to equations in two variables in a rectangular coordinate system. This is called graphing an equation.

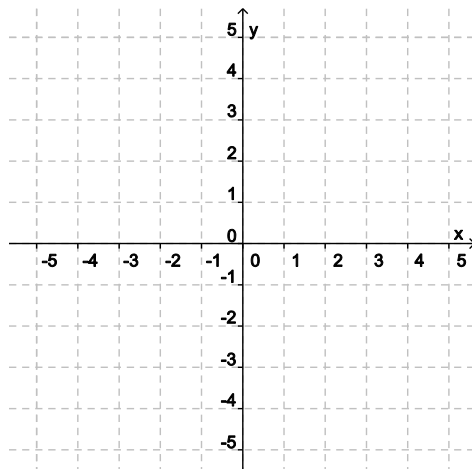
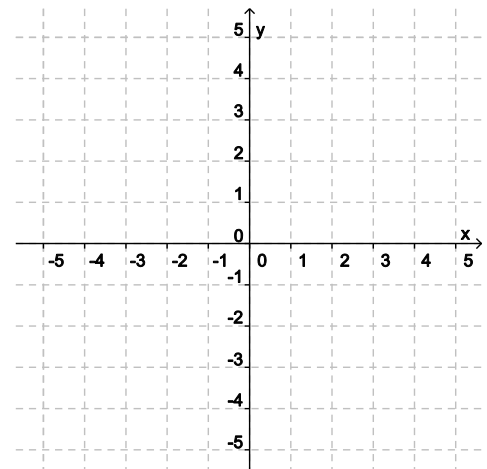
Ex 5.

Graph $3x + y = 3$.

**Ex 6.**

Graph $y = \frac{1}{3}x + 4$.



Ex 7.Graph $y = 2$.**Ex 8.**Graph $x = -3$.

A point where the graph intersect the x -axis is called an _____.

A point where the graph intersect the y -axis is called a _____.

To find an x -intercept:

1. Replace y with 0 in equation.
2. Solve for x .

To find an y -intercept:

1. Replace x with 0 in equation.
2. Solve for y .

Ex 9.Find the coordinates of the x - and y -intercepts.

$$x - 4y = 8$$

Ex 10.Find the coordinates of the x - and y -intercepts.

$$x = -3$$