## 8.10 (Page 311) System of Equations

In mathematics, two equations with the same two variables form a system of equations.

The solution of the system of equations is any ordered pair that is a solution to both equations.

One way to solve a system of equations is by graphing.

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Solving System of Equations

Step #1: Graph one equation.

Step #2: Graph the other equation on the same coordinate plane.

Step #3: Write the ordered pair of the point where the lines cross.

## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = 1x - 2$

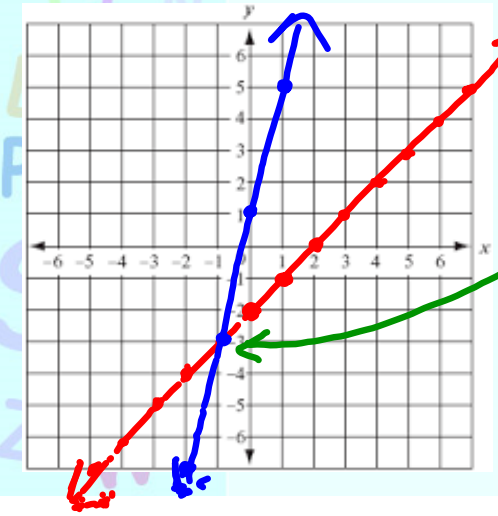
$m = 1 = \frac{1}{1}$

$b = -2$

$y = 4x + 1$

$m = 4 = \frac{4}{1}$

$b = 1$



$(-1, -3)$

## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = 1x - 5$

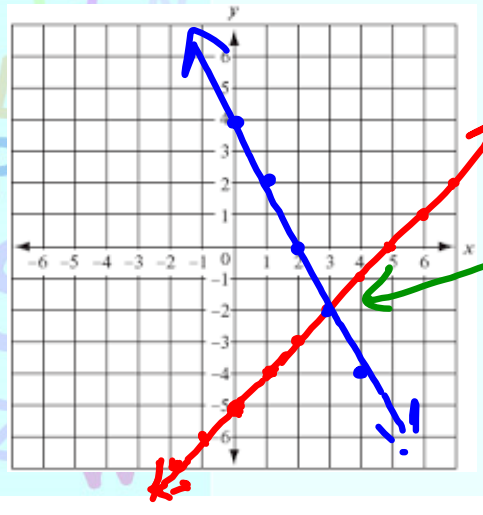
$m = 1 = \frac{1}{1}$

$b = -5$

$y = -2x + 4$

$m = -2 = \frac{-2}{1}$

$b = 4$



$(3, -2)$

## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = 4x + 3$

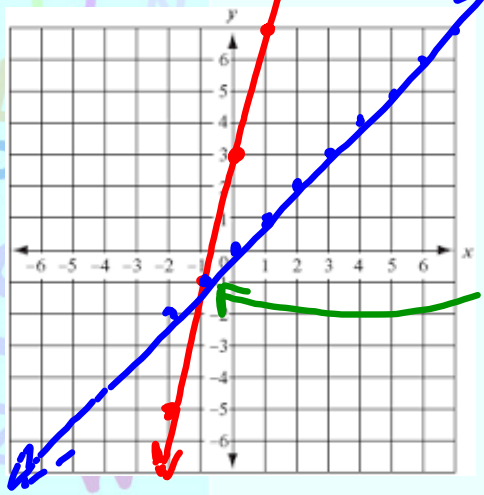
$m = 4 = \frac{4}{1}$

$b = 3$

$y = 1x + 0$

$m = 1 = \frac{1}{1}$

$b = 0$



$(-1, -1)$

## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = \frac{1}{2}x + 0$

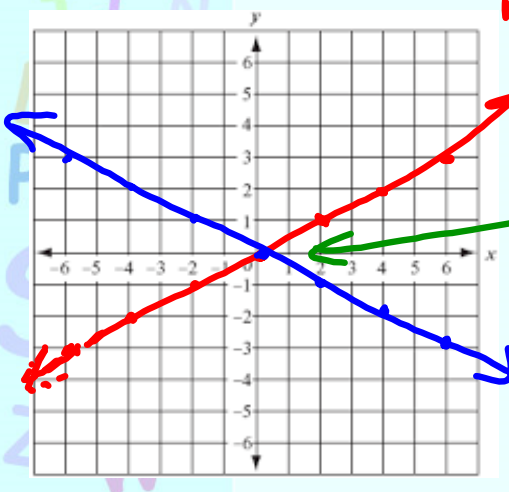
$m = \frac{1}{2}$

$b = 0$

$y = \frac{-1}{2}x + 0$

$m = \frac{-1}{2}$

$b = 0$



$(0, 0)$

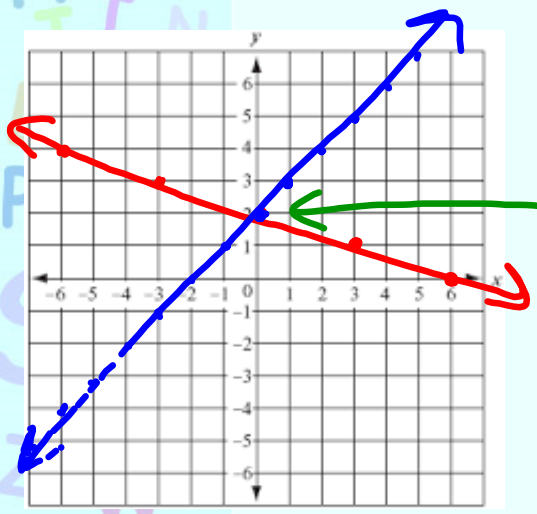
## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = \frac{-1}{3}x + 2$ $y = 1x + 2$

$m = \frac{-1}{3}$ $m = 1 = \frac{1}{1}$

$b = 2$ $b = 2$



(0, 2)

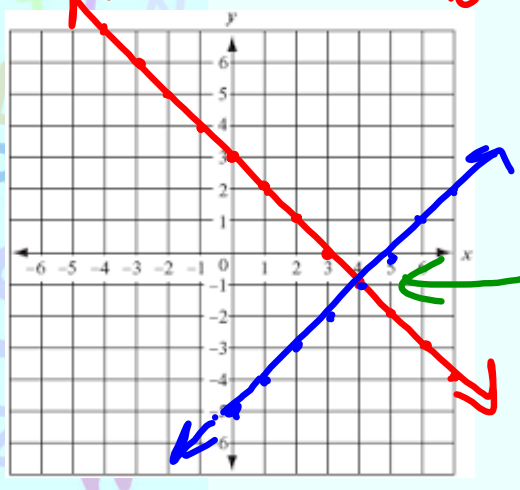
## 8.10 (Page 311) System of Equations

Example: Use a graph to solve each system of equations.

$y = -x + 3$ $y = 1x - 5$

$m = -1 = \frac{-1}{1}$ $m = 1 = \frac{1}{1}$

$b = 3$ $b = -5$



(4, -1)