

Graphing Linear Equations Part 4

April-20-17
2:21 PM

Mathematics 9 Linear Relations Graphing Linear Relations Part 4

A. Definitions

1. X-intercept: the point where the line crosses over the X-axis.
2. Y-intercept: the point where the line crosses over the Y-axis.

B. Finding X-intercepts and Y-intercepts

When we graph a linear equation, there are some special points which can be identified from the graph. The X-intercept is the point where the line crosses the X-axis and the Y-intercept is the point where the line crosses the Y-axis.

Examples

Graph the following equations and then identify the coordinates of the X-intercept and the Y-intercept.

1. $2x - 2y = -4$

x	y
2	4
-1	1
-5	-3

$(2, 4)$
 $(-1, 1)$
 $(-5, -3)$

$$2x - 2y = -4$$

$$2(2) - 2y = -4$$

$$4 - 2y = -4$$

$$-2y = -8$$

$$y = 4 \checkmark$$

$$2x - 2y = -4$$

$$2(-1) - 2y = -4$$

$$-2 - 2y = -4$$

$$-2y = -2$$

$$y = 1 \checkmark$$

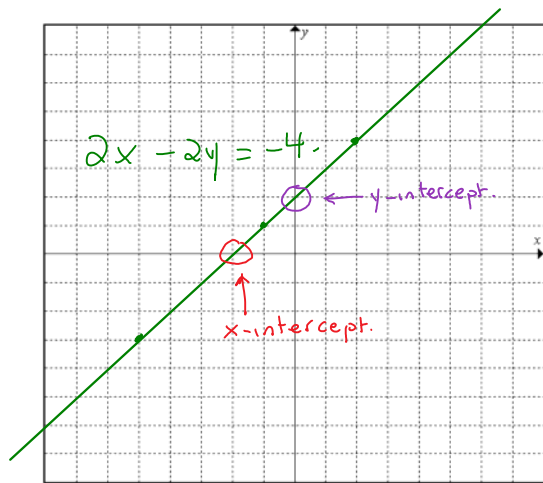
$$2x - 2y = -4$$

$$2(-5) - 2y = -4$$

$$-10 - 2y = -4$$

$$-2y = 6$$

$$y = -3 \checkmark$$



X-intercept (-2 , 0)
 Y-intercept (0 , 2 .)

2. $y = -\frac{2}{3}x - 4$

x	y
-3	-2
3	-6
0	-4

$(-3, -2)$

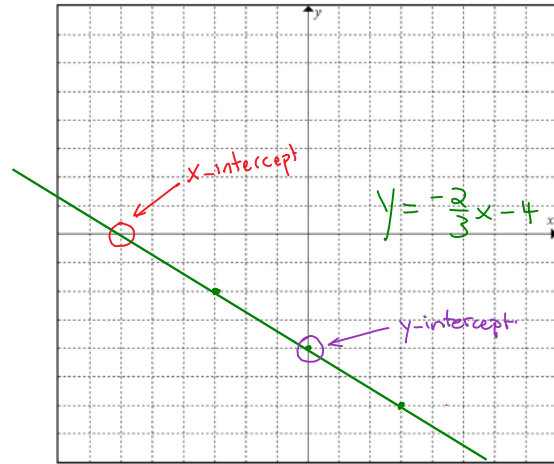
$(3, -6)$

$(0, -4)$

$y = -\frac{2}{3}x - 4$
 $y = -\frac{2}{3}(-3) - 4$
 $y = 2 - 4$
 $y = -2$ ✓

$y = -\frac{2}{3}x - 4$
 $y = -\frac{2}{3}(3) - 4$
 $y = -2 - 4$
 $y = -6$ ✓

$y = -\frac{2}{3}x - 4$
 $y = -\frac{2}{3}(0) - 4$
 $y = 0 - 4$
 $y = -4$ ✓



X-intercept $(-6, 0)$

Y-intercept $(0, -4)$

Assignment: Graphing Linear Equations Part 4 Assignment

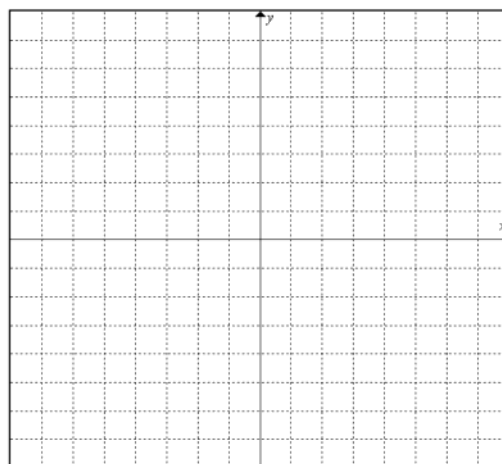
Name: _____

Graphing Linear Equations Part 4 Assignment

Graph the following equations and then identify the coordinates of the X-intercept and the Y-intercept.

1) $x - y = 6$

x	y

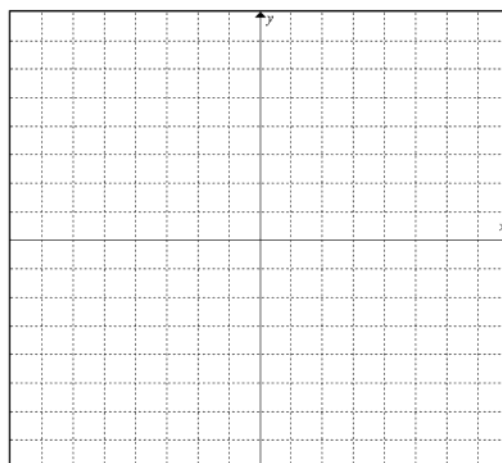


X-intercept (,)

Y-intercept (,)

2) $y = \frac{1}{2}x - 4$

x	y

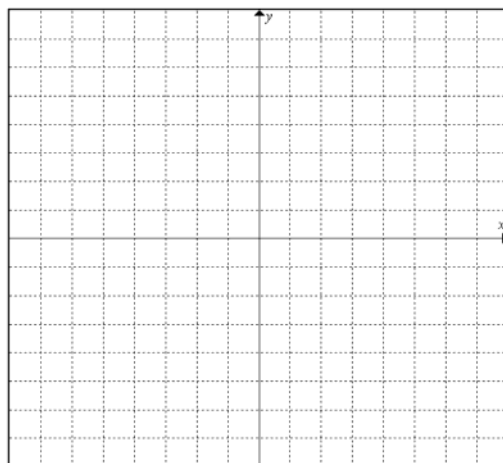


X-intercept (,)

Y-intercept (,)

3) $2x - y = -2$

x	y

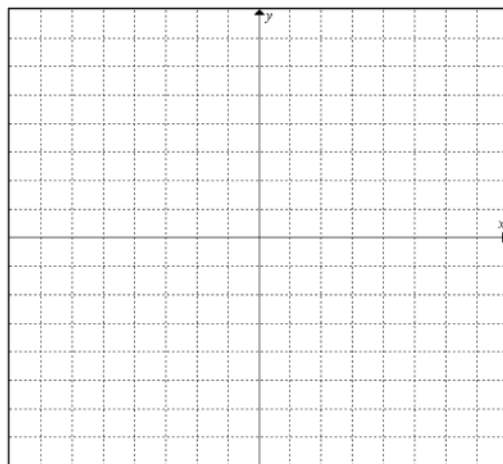


X-intercept (,)

Y-intercept (,)

4) $y = -\frac{1}{4}x + 2$

x	y

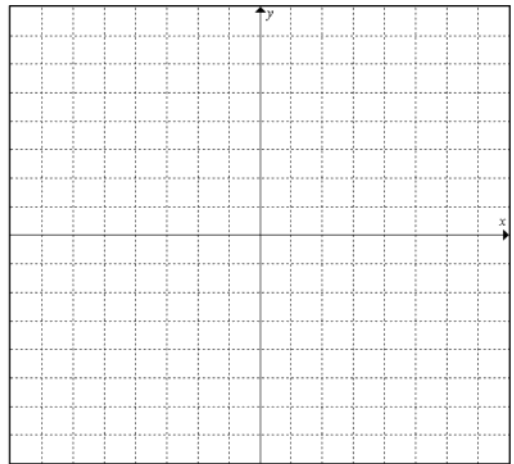


X-intercept (,)

Y-intercept (,)

5) $x + 2y = 8$

x	y

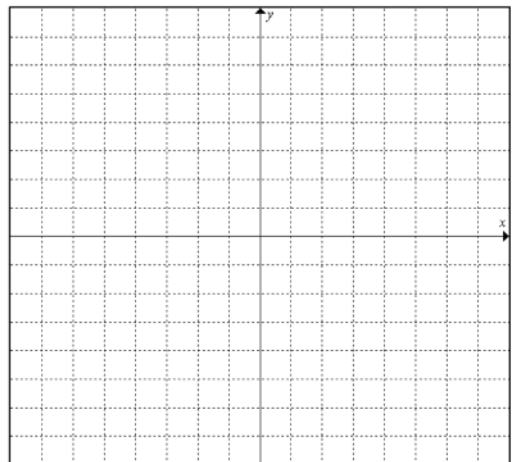


X-intercept (,)

Y-intercept (,)

6) $y = -\frac{2}{3}x - 2$

x	y



X-intercept (,)

Y-intercept (,)

Answers

1) X-intercept (6, 0)
Y-intercept (0, -6)

2) X-intercept (8, 0)
Y-intercept (0, -4)

3) X-intercept (-1, 0)
Y-intercept (0, 2)

4) X-intercept (8, 0)
Y-intercept (0, 2)

5) X-intercept (8, 0)
Y-intercept (0, 4)

6) X-intercept (-3, 0)
Y-intercept (0, -2)