

Warm-up:

Find the slope of each line given below.

$$y = mx + b$$

$$1. y = -\frac{3}{4}x - 2$$

$$\left(-\frac{3}{4}\right)$$

$$2. y = 7x$$

$$(7)$$

Use the slope formula to solve:

3. What is the slope of the line containing the ordered pairs $(3, -2)$ and $(5, -6)$?

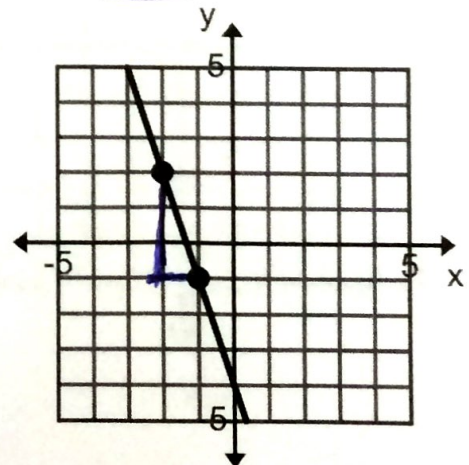
$$\frac{-2 - (-6)}{3 - 5} = \frac{4}{-2} = (-2)$$

4. What is the slope of the line containing the ordered pairs $(2, 5)$ and $(-1, 7)$?

$$\frac{5 - 7}{2 - (-1)} = \frac{-2}{3}$$

5. Find the slope of the line on the graph.

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



Vocabulary:• **x-intercepts:**

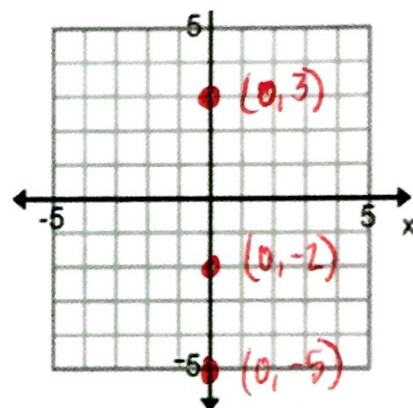
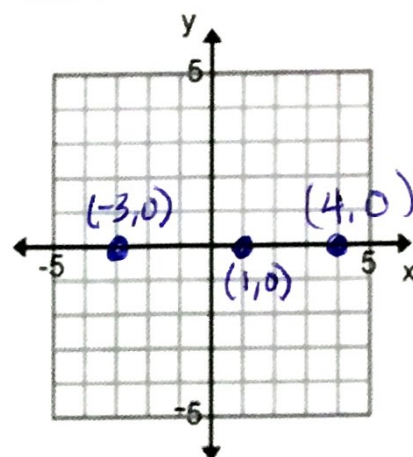
Where the line hits
the x-axis $(\quad, 0)$

$$y = 0 \text{ Always}$$

• **y-intercepts:**

Where the line hits
the y-axis $(0, \quad)$

$$x = 0 \text{ Always}$$



Ex. 1: Find the x and y intercepts of each equation. Then use them to graph the equation.

$$8x + y = -4$$

$$x\text{-int: } (-\frac{1}{2}, 0)$$

$$8x + 0 = -4$$

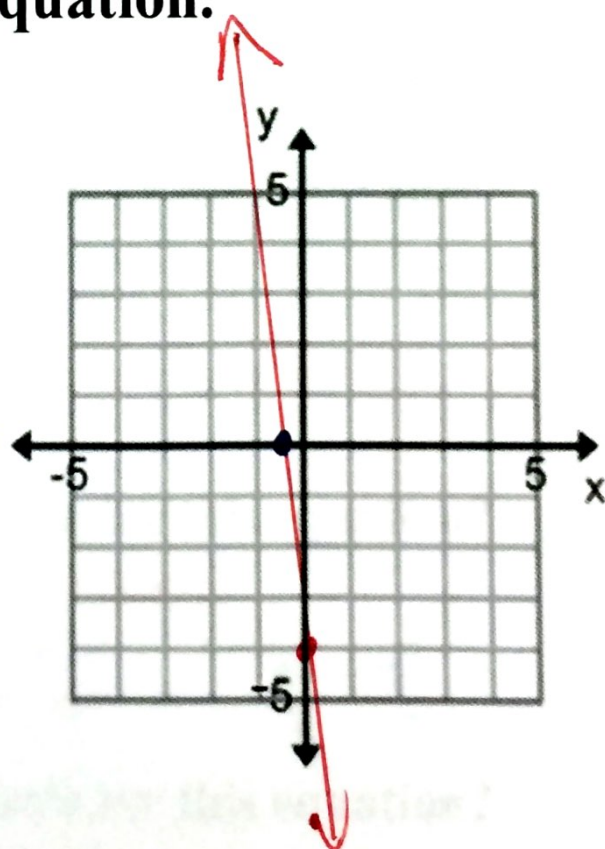
$$\frac{8x}{8} = \frac{-4}{8} = -\frac{1}{2}$$

$$y\text{-int: } (0, -4)$$

$$8(0) + y = -4$$

$$0 + y = -4$$

$$y = -4$$

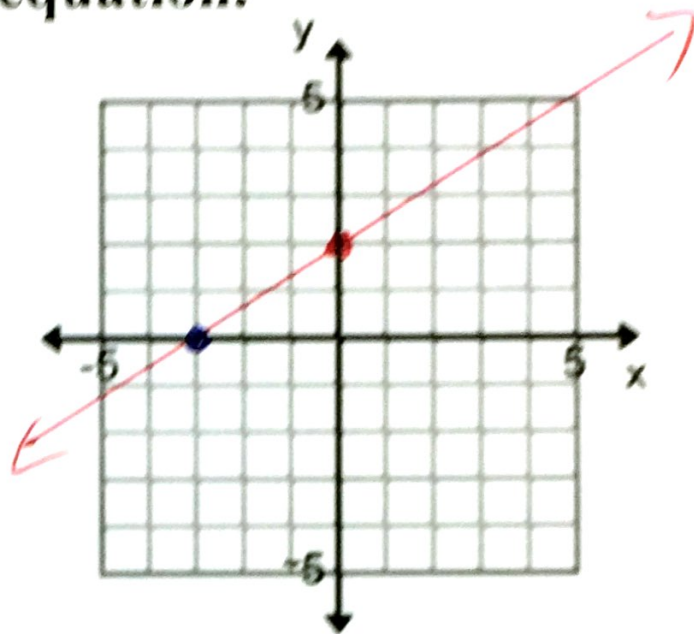


Ex. 2: Find the x and y intercepts of each equation. Then use them to graph the equation.

$$-2x + 3y = 6$$

$$x\text{-int: } (-3, 0) \quad \frac{-2x = 6}{-2} \quad \frac{6}{-2}$$

$$y\text{-int: } (0, 2) \quad \frac{3y = 6}{3} \quad \frac{6}{3}$$



Ex. 3: You are purchasing school supplies for the new school year. You can get notebooks for \$2 and binders for \$3, but you only have \$42 with you. This can be illustrated by the equation $2x + 3y = 42$, where x = the number of notebooks and y = the number of binders.

a. What is the x -intercept? $(21, 0)$ $\frac{2x = 42}{2} \quad \frac{42}{2}$
 $x = 21$

b. What does the x intercept mean for this equation?
 21 notebooks 0 binders

c. What is the y -intercept? $(0, 14)$ $\frac{3y = 42}{3} \quad \frac{42}{3}$
 $y = 14$

d. What does the y intercept mean for this equation?
 0 notebooks 14 Binders

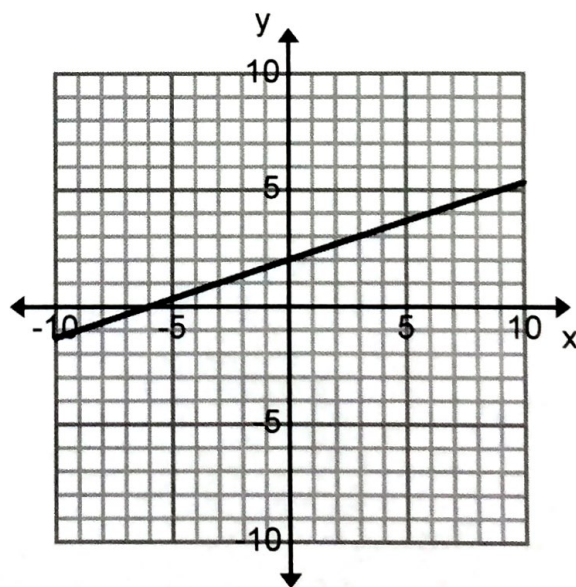
Ex. 4: Find the x and y intercepts using the table.

x	y
-10	-2
-6	0
-4	1
0	3
4	5

$$x - \text{int} : (-6, 0)$$

$$y - \text{int} : (0, 3)$$

Ex. 5: Use the graph to find the x and y intercepts if they exist.



$$x - \text{int} : (-6, 0)$$

$$y - \text{int} : (0, 3)$$