

**Learning Target:** I will find the equation of a line.

**Form A**

## 1. We Do Together/Reflect

- a. Calculate the slope ( $m$ ) and y-intercept ( $b$ ) of the line that contains the two points: **(-3, 2)** and **(6, 8)**

$$\begin{aligned} \text{Slope } m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{8 - \boxed{\phantom{00}}}{6 - \boxed{\phantom{00}}} \\ &= \frac{8 + \boxed{\phantom{00}}}{6 + \boxed{\phantom{00}}} \\ &= \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \\ m &= \boxed{\phantom{00}} \end{aligned}$$

Solve for the y-intercept

$$y = m \cdot x + b$$

$$8 = \boxed{\phantom{00}} \cdot 6 + b$$

$$8 = \boxed{\phantom{00}} + b$$

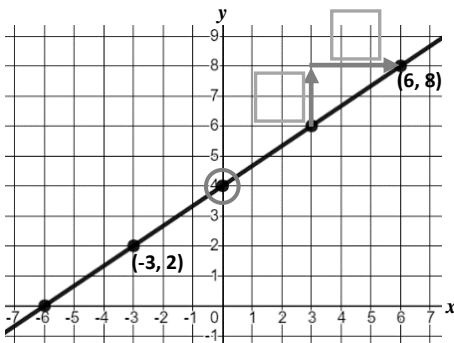
$$\boxed{\phantom{00}} - \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} = b$$

- b. Verify the calculated slope and y-intercept using two points represented from the table and graph.

x	y
-6	0
<b>-3</b>	<b>2</b>
0	4
3	6
6	8

Run  $\boxed{\phantom{00}}$  Rise  $\boxed{\phantom{00}}$



- c. Complete the equation of the line.

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

Slope                  y-intercept

## 2. You Do Together

- a. Find the equation of the line that contains the two points: **(-6, -4)** and **(3, -1)**

$$\text{Slope } (m) = \frac{y_2 - y_1}{x_2 - x_1}$$

Solve for the y-intercept ( $b$ )

$$y = m \cdot x + b$$

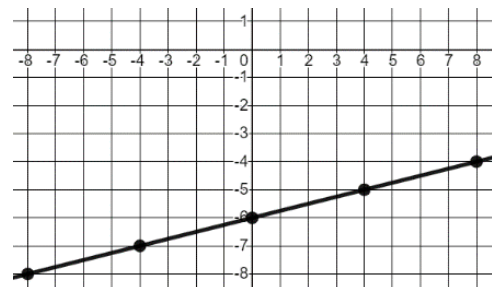
$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- b. Find the equation of the line using the two points represented in the table.

x	y
-2	9
-1	7
0	5
<b>1</b>	<b>3</b>
<b>2</b>	<b>1</b>

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- c. Find the equation of the line using two of the points represented in the graph.



$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

**Note:** Slope can be referred to as **rate of change** and the y-intercept can be referred to as the **initial value**.

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**Form B**

## 1. We Do Together/Reflect

- a. Calculate the slope (m) and y-intercept (b) of the line that contains the two points: **(-8, -1)** and **(4, 8)**

$$\begin{aligned} \text{Slope } m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{8 - \boxed{\phantom{00}}}{4 - \boxed{\phantom{00}}} \\ &= \frac{8 + \boxed{\phantom{00}}}{4 + \boxed{\phantom{00}}} \\ &= \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \\ m &= \boxed{\phantom{00}} \end{aligned}$$

Solve for the y-intercept

$$y = m \cdot x + b$$

$$8 = \boxed{\phantom{00}} \cdot 4 + b$$

$$8 = \boxed{\phantom{00}} + b$$

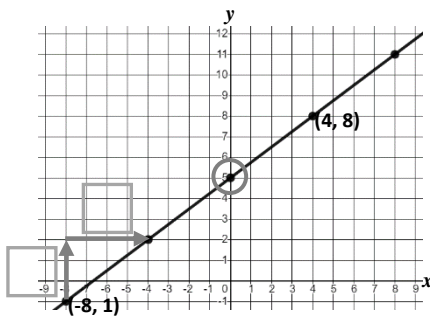
$$\boxed{\phantom{00}} - \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} = b$$

- b. Verify the calculated slope and y-intercept using two points represented from the table and graph.

x	y
-8	-1
-4	2
0	5
4	8
8	11

Run  $\boxed{\phantom{00}}$  Rise  $\boxed{\phantom{00}}$



- c. Complete the equation of the line.

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

Slope                      y-intercept

## 2. You Do Together

- a. Find the equation of the line that contains the two points: **(-6, -8)** and **(0, -4)**

$$\text{Slope } (m) = \frac{y_2 - y_1}{x_2 - x_1}$$

Solve for the y-intercept (b)

$$y = m \cdot x + b$$

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- b. Find the equation of the line using the two points represented in the table.

x	y
-2	-8
-1	-6
0	-4
1	-2
2	0

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- c. Find the equation of the line using two of the points represented in the graph.



$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

**Note:** Slope can be referred to as **rate of change** and the y-intercept can be referred to as the **initial value**.

**Learning Target:** I will find the equation of a line.

**Form C**

## 1. We Do Together/Reflect

- a. Calculate the slope ( $m$ ) and y-intercept ( $b$ ) of the line that contains the two points:  **$(-10, -1)$**  and  **$(-5, 1)$**

$$\begin{aligned} \text{Slope } m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{1 - \boxed{\phantom{00}}}{-5 - \boxed{\phantom{00}}} \\ &= \frac{1 + \boxed{\phantom{00}}}{-5 + \boxed{\phantom{00}}} \\ &= \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \\ m &= \boxed{\phantom{00}} \end{aligned}$$

Solve for the y-intercept

$$y = m \cdot x + b$$

$$1 = \boxed{\phantom{00}} \cdot -5 + b$$

$$1 = \boxed{\phantom{00}} + b$$

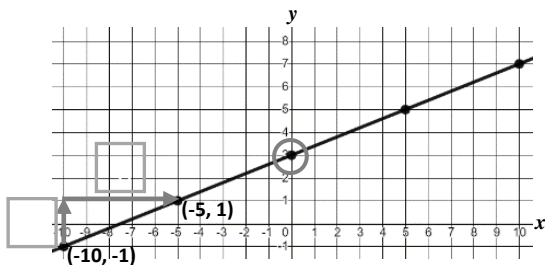
$$\boxed{\phantom{00}} - \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} = b$$

- b. Verify the calculated slope and y-intercept using two points represented from the table and graph.

$x$	$y$
-10	-1
-5	1
0	3
5	5
10	7

Run  $\boxed{\phantom{00}}$  Rise  $\boxed{\phantom{00}}$



- c. Complete the equation of the line.

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

*Slope*                      *y-intercept*

## 2. You Do Together

- a. Find the equation of the line that contains the two points:  **$(-3, -6)$**  and  **$(3, -4)$**

$$\text{Slope } (m) = \frac{y_2 - y_1}{x_2 - x_1}$$

Solve for the y-intercept ( $b$ )

$$y = m \cdot x + b$$

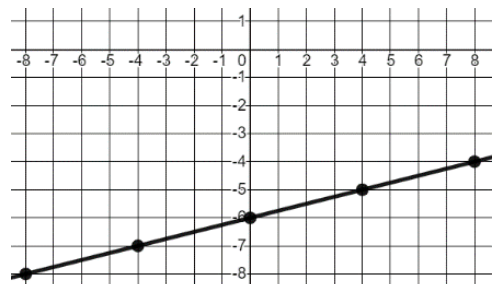
$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- b. Find the equation of the line using the two points represented in the table.

$x$	$y$
-2	16
-1	12
0	8
1	4
2	0

$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- c. Find the equation of the line using the two points represented in the graph.



$$y = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

**Note:** Slope can be referred to as **rate of change** and the y-intercept can be referred to as the **initial value**.