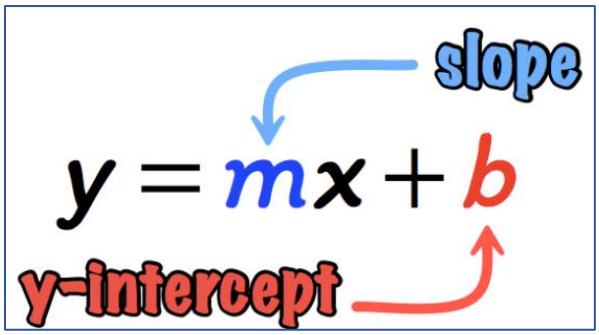
SECTION 2.2 **ALGEBA 2** **THOMPSON**

Graphing Equations of Lines



1) Find the slope and y-intercept of the graph of the equation.

$y = 4x - 8$

Select the correct choice and fill in any answer boxes in your choice I

- ★ A. The slope is 4 .
- B. The slope is undefined.

Select the correct choice and fill in any answer boxes in your choice I

- ★ A. The y-intercept is −8 .
- B. There is no y-intercept.

2) Find the slope and y-intercept of the graph of the equation.

$y = 6x - 6$

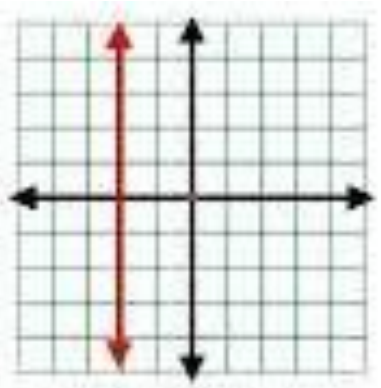
Select the correct choice and fill in any answer boxes in your choice below.

- ★ A. The slope is 6 .
- B. The slope is undefined.

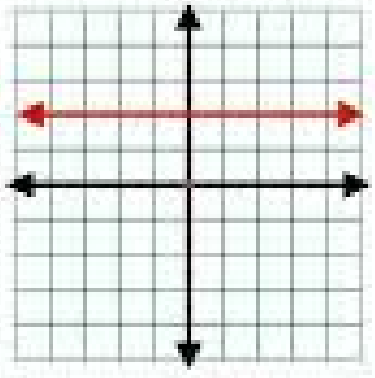
Select the correct choice and fill in any answer boxes in your choice below.

- ★ A. The y-intercept is −6 .
- B. There is no y-intercept.

x = -3 (y intercept is 0)



y = 2 (y intercept is 2)



Slope → ***Undefined*** ***Zero***

3) Find the slope and y-intercept of the graph of the equation.

$y = 1$

Select the correct choice and fill in any answer boxes in your choice

- ★ A. The slope is 0.
- B. The slope is undefined.

Select the correct choice and fill in any answer boxes in your choice

- ★ A. The y-intercept is 1.
- B. There is no y-intercept.

4) Find the slope and y-intercept of the graph of the equation.

$y = \frac{1}{9}x - \frac{1}{7}$

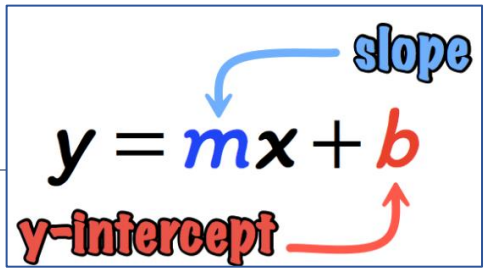
Select the correct choice and fill in any answer boxes in your choic

- ★ A. The slope is $\frac{1}{9}$.
- B. The slope is undefined.

Select the correct choice and fill in any answer boxes in your choic

- ★ A. The y-intercept is $-\frac{1}{7}$.
- B. There is no y-intercept.

5) Find the equation of the line with y-intercept -2 and slope $\frac{5}{6}$.



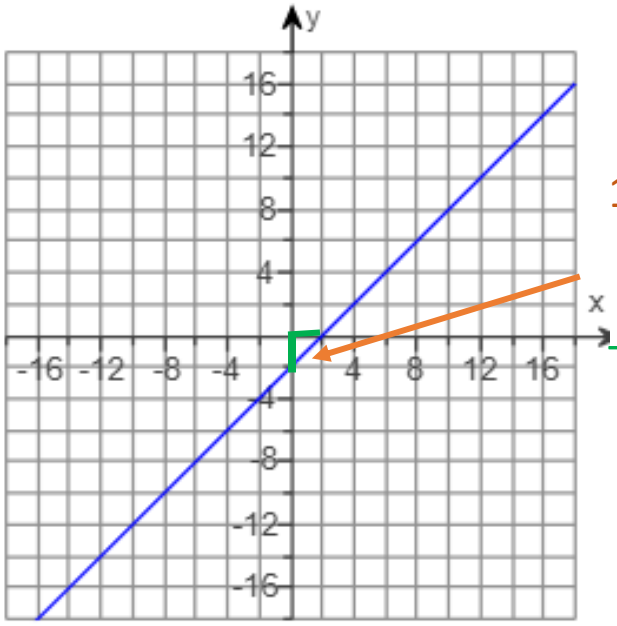
Enter the equation of the line in slope-intercept form.

$y = \frac{5}{6}x - 2$

(Use integers or fractions for any numbers in the expression.)

6)

Write an equation of the line.



1st

Find y-intercept b = -2

Then find slope: up 1 right 1

m = 1

y = x - 2

7) Write an equation of the line.

1st

Find y-intercept

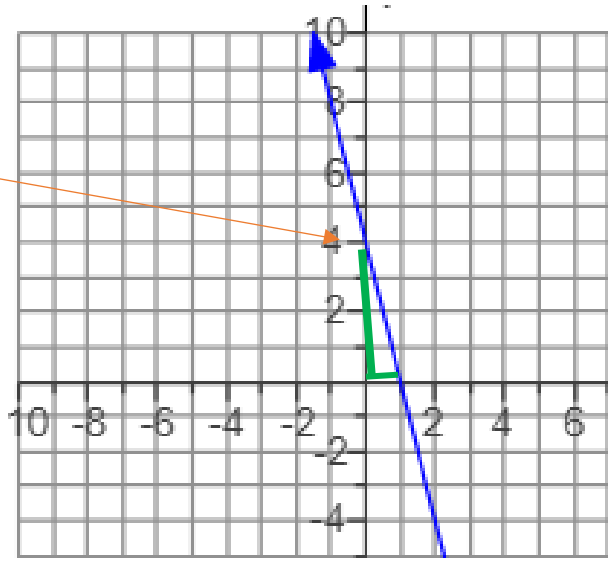
b = 4

Then find slope

down 4

right 1

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



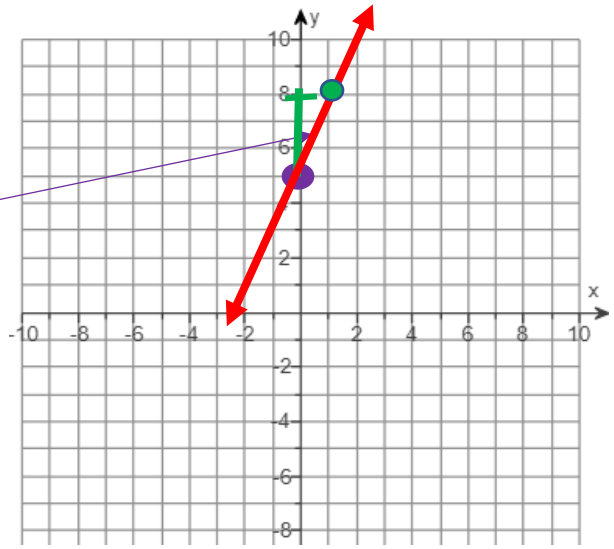
8) Graph the equation.

$y = 3x + 5$

Pick line graph

Plot the y-intercept 5

Then shift up 3 right 1



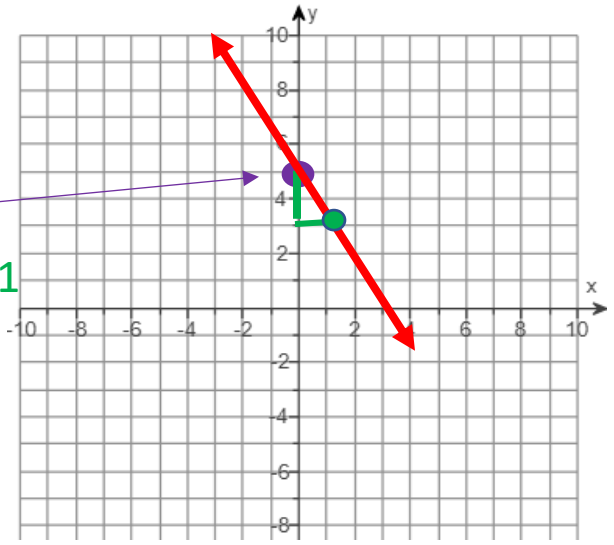
9) Graph the equation.

$y = -2x + 5$

Pick line graph

Plot the y-intercept 5

Then shift **down** 2 right 1



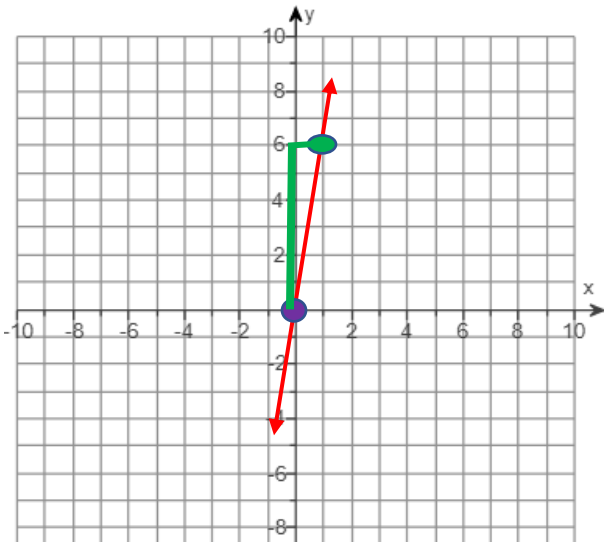
10) Graph the equation.

$y = 6x$

Pick line graph

Plot the y-intercept 0

Then shift up 6 right 1



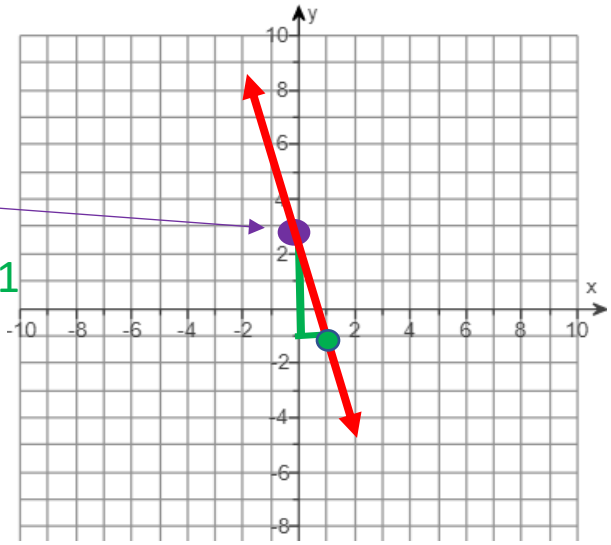
11) Graph the equation.

$y = -4x + 3$

Pick line graph

Plot the y-intercept 3

Then shift **down** 2 right 1



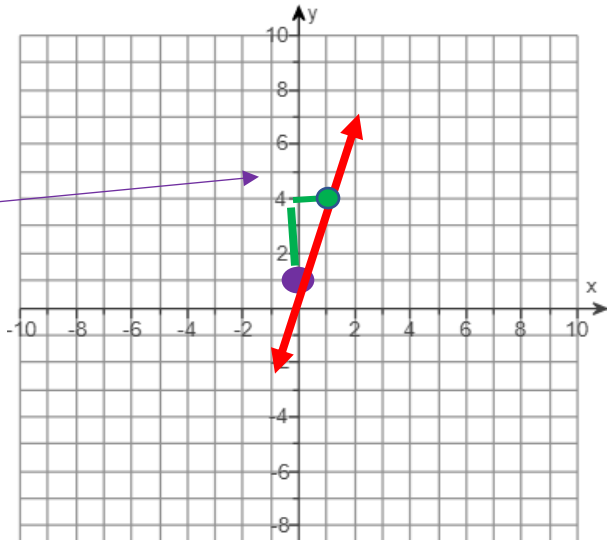
12) Graph the equation.

$y = 3x + 1$

Pick line graph

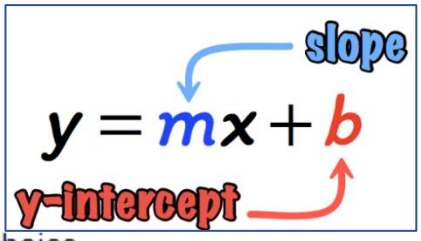
Plot the y-intercept 1

Then shift up 3 right 1



13) Find the slope and y-intercept of the graph of the equation.

$y = 7x + 6$



Select the correct choice and fill in any answer boxes in your choice

A. The slope is 7.

B. The slope is undefined.

Select the correct choice and fill in any answer boxes in your choice

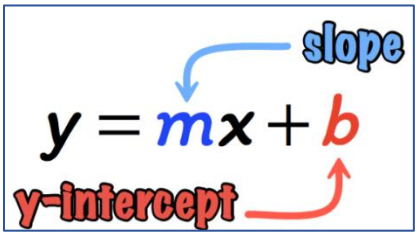
A. The y-intercept is 6.

B. There is no y-intercept.

14) Find the equation of the line with y-intercept 5 and slope $-\frac{3}{7}$.

b *m*

$y = -\frac{3}{7}x + 5$



15) Determine the equation of the line.

1st

Find y-intercept

b = -14

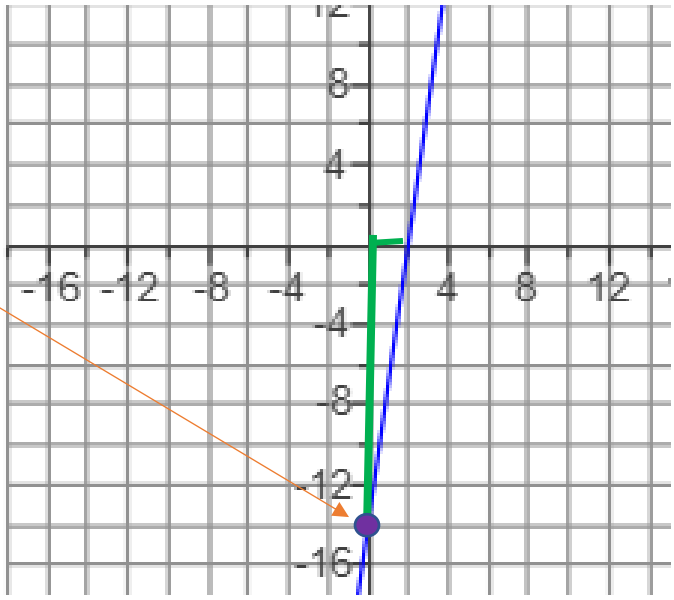
Then find slope

up 14

right 2

m = 4

y = 14x – 14



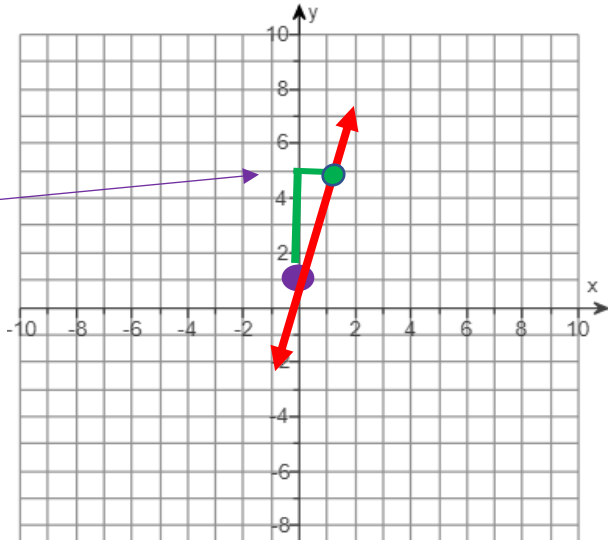
16) Graph the equation.

y = 4x + 1

Pick line graph

Plot the y-intercept 1

Then shift up 4 right 1



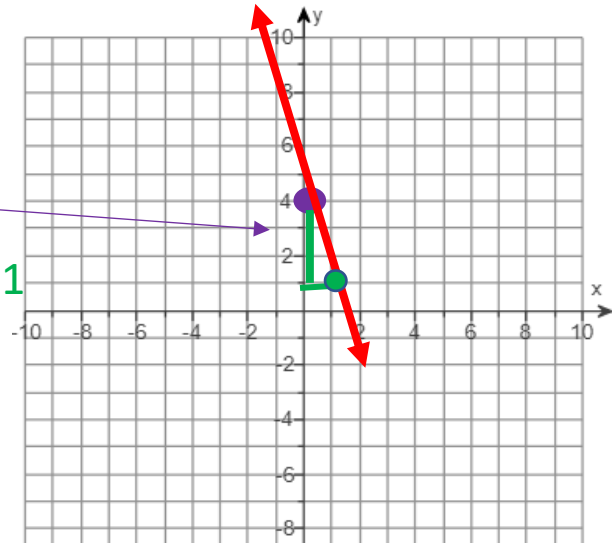
17) Graph the equation.

$y = -3x + 4$

Pick line graph

Plot the y-intercept 4

Then shift **down** 3 right 1



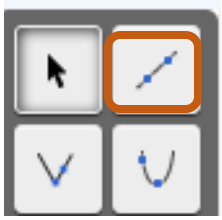
18) Graph the equation.

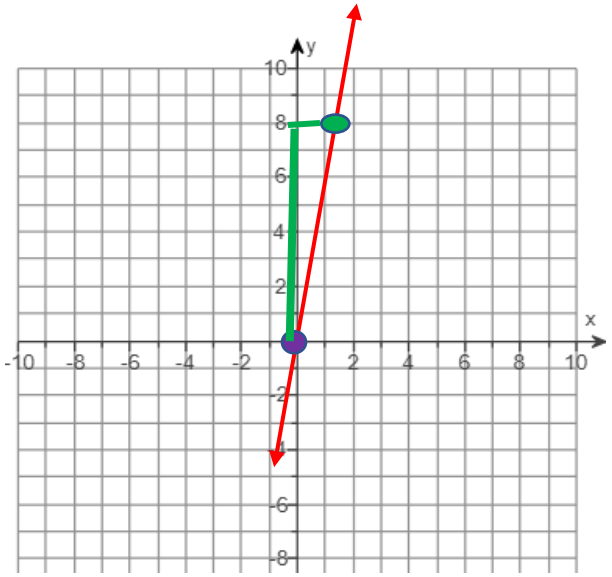
$y = 8x$

Pick line graph

Plot the y-intercept 0

Then shift up 8 right 1





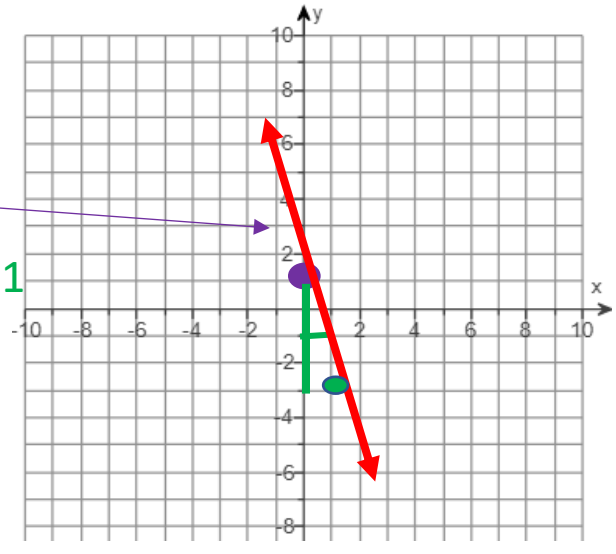
19) Graph the equation.

$y = -4x + 1$

Pick line graph

Plot the y-intercept 1

Then shift **down** 4 right 1



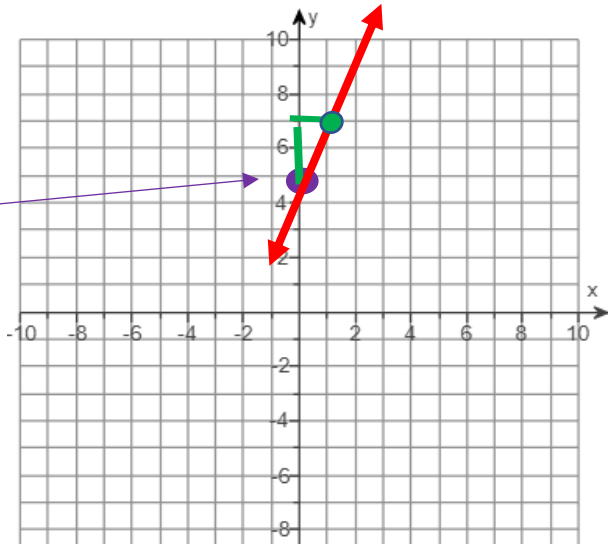
20) Graph the equation.

$y = 2x + 5$

Pick line graph

Plot the y-intercept 5

Then shift up 2 right 1



21) Write the equation of the line in slope-intercept form.

$m = \frac{3}{5}$, y-intercept (0,2) $y = \frac{3}{5}x + 2$

22) Write the equation of the line in slope-intercept form.

$m = \frac{3}{4}$, y-intercept (0,9) $y = \frac{3}{4}x + 9$

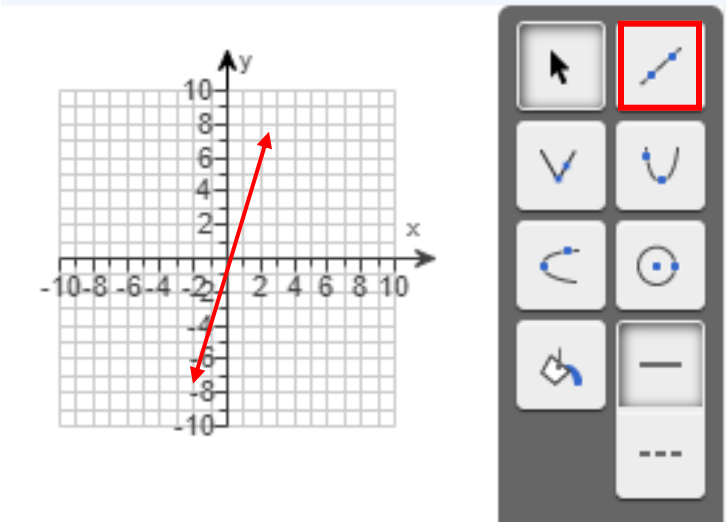
23) Graph the equation.

$y = 3x$

Pick line graph

Plot the y-intercept 0

Then shift up 3 right 1

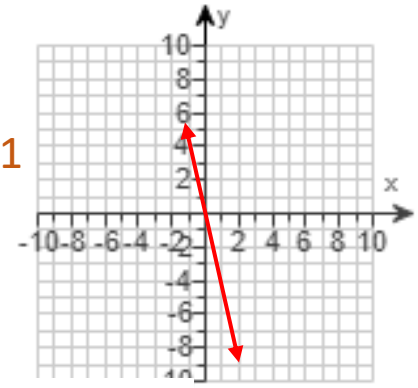


24) Use the slope-intercept form to graph the equation $y = -6x + 1$.

Pick line graph

Plot the y-intercept 1

Then shift down 6 right 1

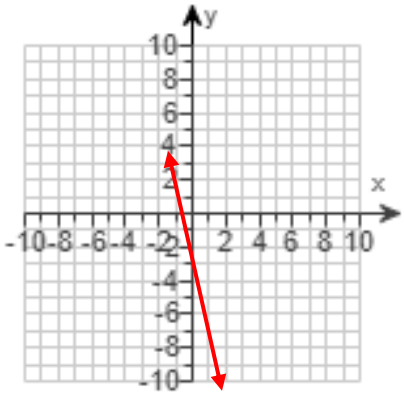


25) Use the slope-intercept form to graph the equation $y = -5x - 2$.

Pick line graph

Plot the y-intercept -2

Then shift down 5 right 1



EXTRA EXAMPLES:

a) Determine the equation of the line.

1st

Find y-intercept

b = -14

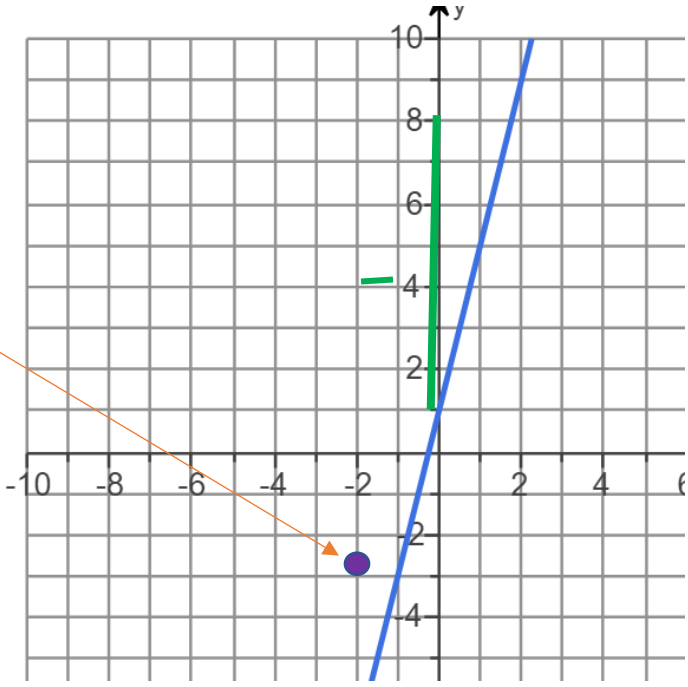
Then find slope

up 14

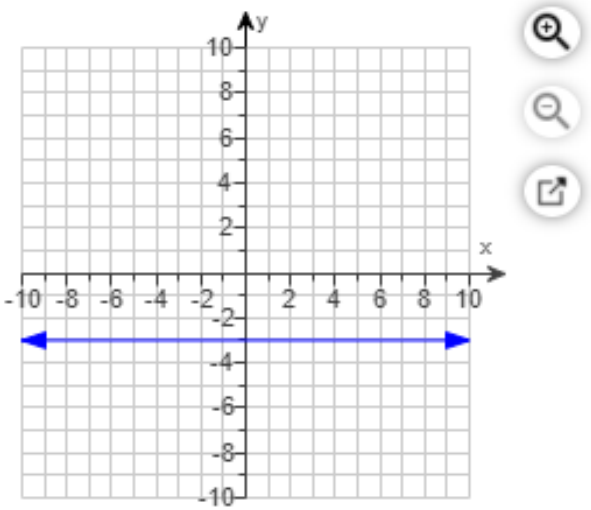
right 2

m = 4

y = 14x – 14



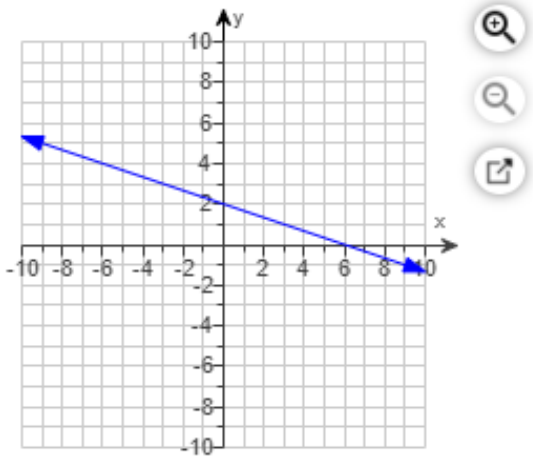
b) Find the slope and y-intercept of the line shown below.



Slope is 0 for a horizontal line

y-intercept in ordered pair (0,-3)

c) Find the slope and y-intercept of the line shown below.



Slope is $-\frac{1}{3}$ from point on the left, you shift down 2 and right 6

y-intercept in ordered pair (0,2)