

FUNC.b

To find slope,
given a graph:

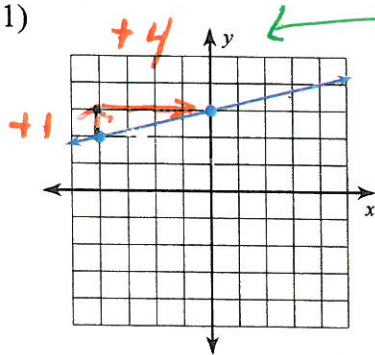
$$m = \frac{\text{Rise}}{\text{Run}}$$

FUNC.b.1

Given the graph of a line, find the slope.

Clearly show your work. Label your your calculations and final answer using the correct variable notation. Circle your final answer.

1)

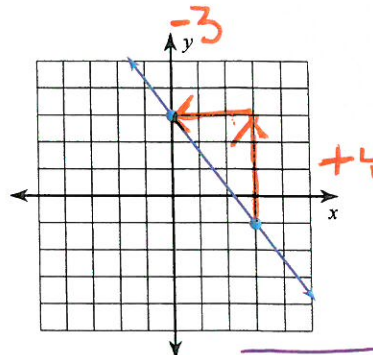


Show this work

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

Label calculation with the variable "m".

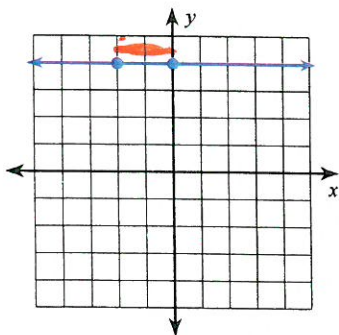
2)



$$m = \frac{4}{-3}$$

Leave fractions as simplified improper fraction

3)

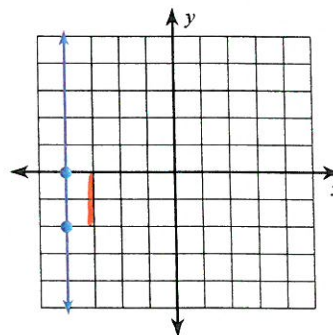


$$m = \frac{0}{2}$$

$$m = 0$$

Answer must include the correct variable "m".

4)



$$m = \frac{2}{0}$$

$$m = \text{UNDEFINED}$$

FUNC.b

Date _____ Period _____

FUNC.b.2

Given a function, in slope-intercept form, graph the line and identify the slope and y-intercept.

Graph the linear function(s).

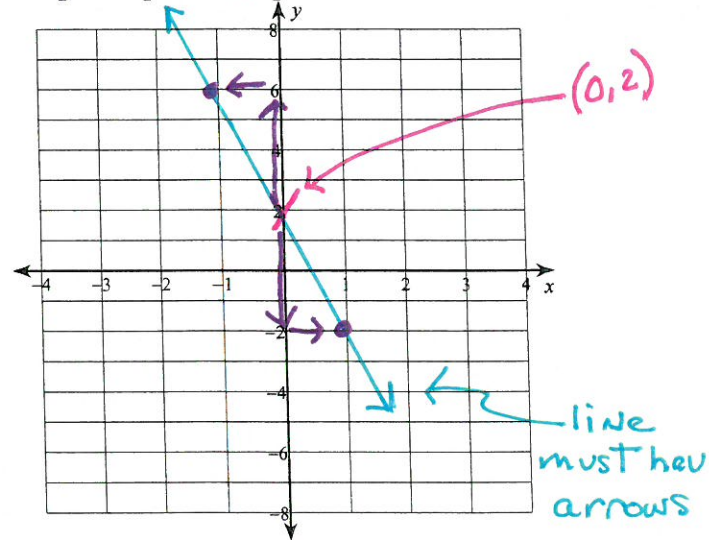
- 1) State the slope and y-intercept using the correct variable notations. (GREEN)
- 2) Label the graph with a "Y" for the y-intercept. (PINK)
- 3) Clearly show how you used slope to identify 2 additional points. (purple)
- 4) Draw the line. (blue)

Show this work
↓

1) $f(x) = -4x + 2$

$$m = -\frac{4}{1} \quad b = 2$$

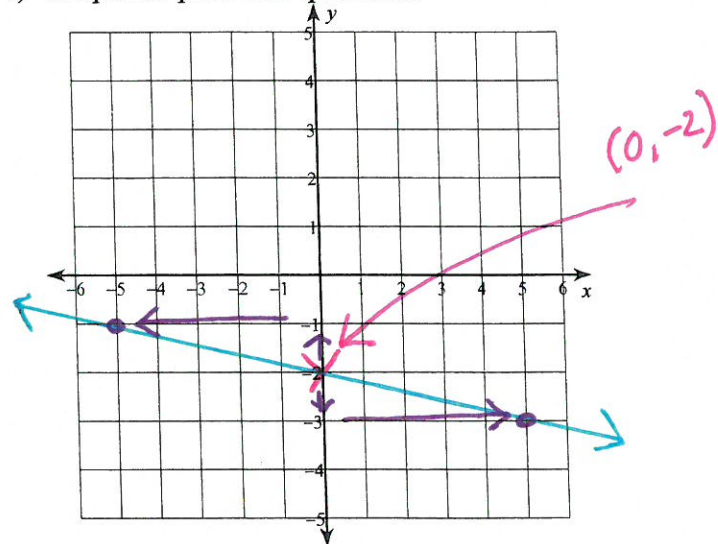
2) Graph for previous question.



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

$$m = -\frac{1}{5} \quad b = -2$$

4) Graph for previous question.



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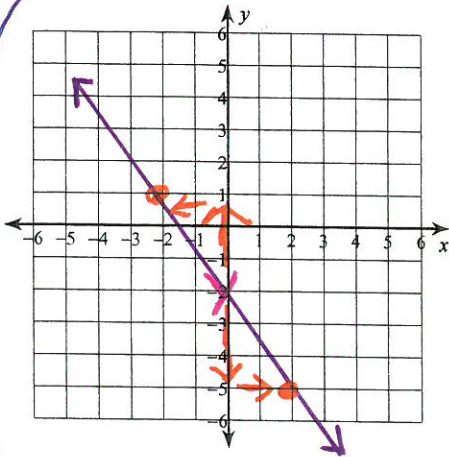
FUNC.b.3

Given a function, NOT in slope-intercept form, graph the line and identify the slope and y-intercept.

$$y = mx + B$$

- 1) Write the linear function in slope intercept form. Clearly show your work and write using function notation. (blue)
- 2) State the slope and y-intercept using the correct variable notations. (green)
- 3) Label the graph with a "Y" for the y-intercept. (pink)
- 4) Clearly show how you used slope to identify 2 additional points. (orange)
- 5) Draw the line. (purple)

1) $3x + 2y = -4$



$$\begin{array}{r} 3x + 2y = -4 \\ -3x \quad -3x \\ \hline 2y = -3x - 4 \\ \frac{2y}{2} = \frac{-3x}{2} - \frac{4}{2} \end{array}$$

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

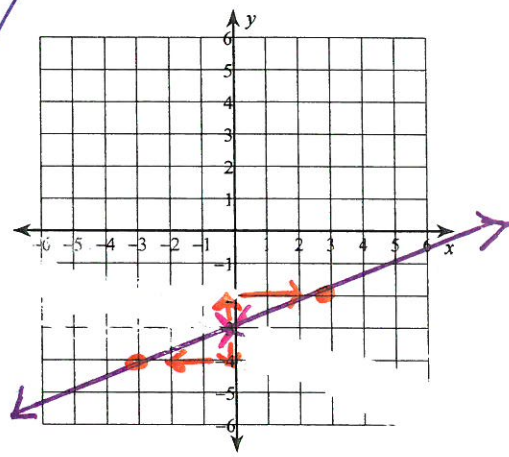
$$y = -\frac{3}{2}x - 2$$

$$m = -\frac{3}{2}$$

$$b = -2$$

$$f(x) = -\frac{3}{2}x - 2$$

2) $x - 3y = 9$



$$\begin{array}{r} x - 3y = 9 \\ -x \quad -x \\ \hline -3y = -x + 9 \\ \frac{-3y}{-3} = \frac{-x}{-3} + \frac{9}{-3} \end{array}$$

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

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

$$b = -3$$

$$f(x) = \frac{1}{3}x - 3$$

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FUNC.b.4

Write and graph a linear equation, using appropriate scale and labels, given a real world example.

For the following real world problem:

- (a) Rewrite the given equation in slope-intercept form; and define your x and y variables using correct units. Show your work HERE:

$$y - 10t - 100 = 0$$

$$+ 10t + 100 \quad + 10t + 100$$

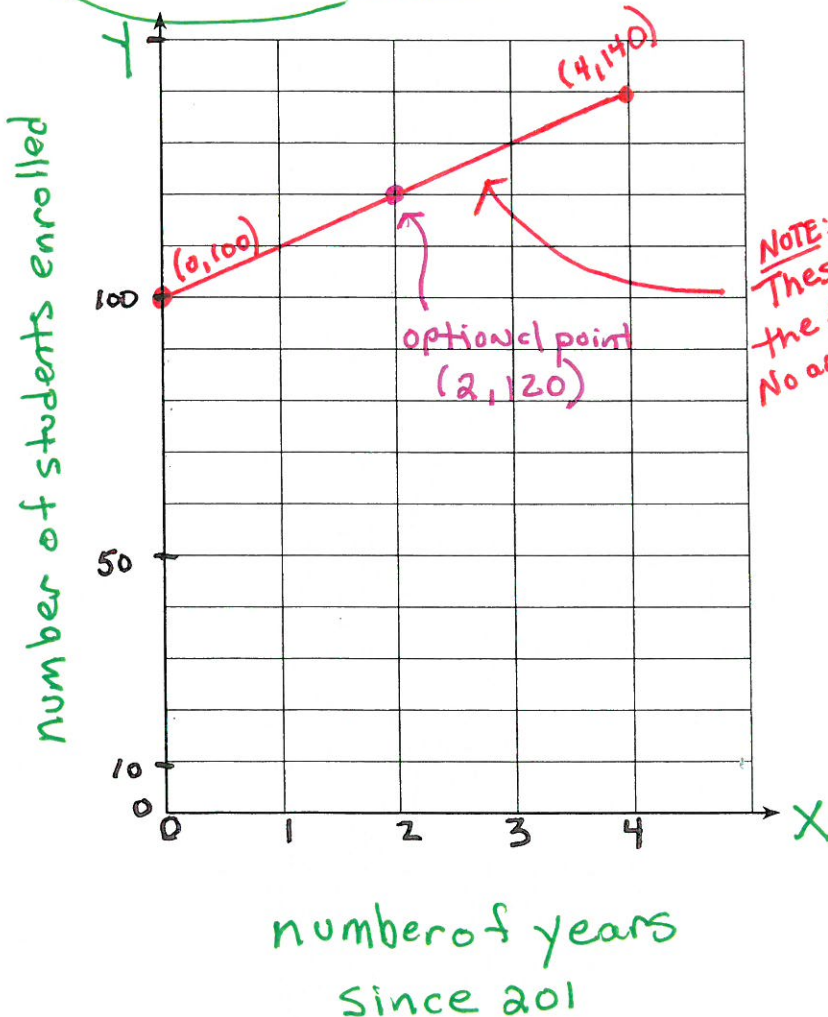
$$y = 10t + 100$$

$y =$ number of students enrolled
 $x = t =$ number of years since 2010

- (b) Sketch the graph of this equation using appropriate labels and scales for the given graph. Both scales must start at zero(0).

- (c) For your graph clearly identify 2 points and explain how you found these points. **USE A TABLE**

1) For 2010 through 2014, a small Maine High School's student enrollment, y, was related to the year, t, by the equation $y - 10t - 100 = 0$, where $t = 0$ represents the first year, 2010



$t \downarrow$	x	y
2010	0	100
2012	2	120
2014	4	140