

I can write the equation of a line in slope-intercept form given a graph.

11/19/19 'A'

Homework

Do Now: LOOSELEAF IN BINDER.

Write a linear equation with a slope of 3 & y-intercept of -4.

m

b

$$y = mx + b$$

$$y = 3x - 4$$

**Tuesday
Problems
AND VOCAB!**



**Quiz
Thursday**

Page 25 in Packet Exercise 1

Exercise #1: Consider the linear function whose graph is shown below.

Find m and b.

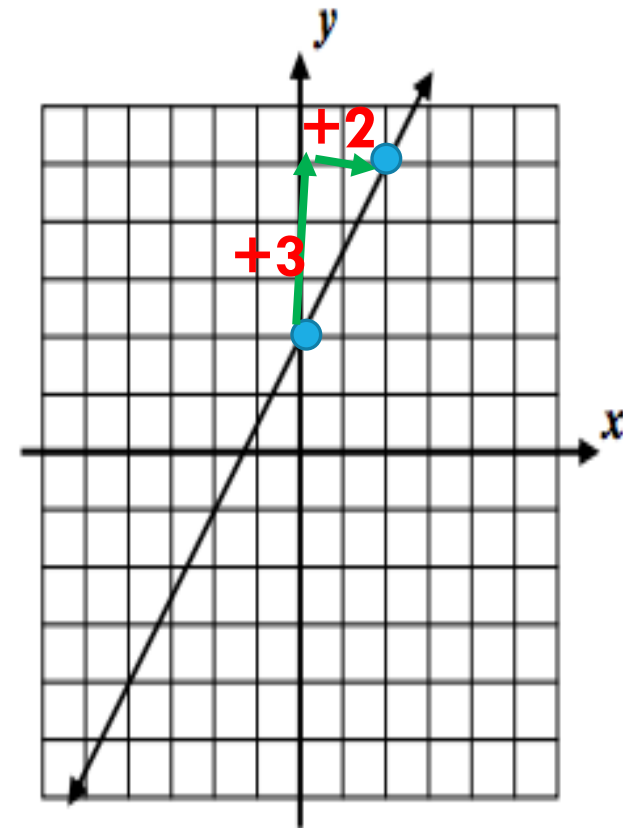
(a) Determine an equation in the form $y = mx + b$ for this line.

$$m = \frac{\text{Rise} = 3}{\text{Run} = 2}$$

$$y = mx + b$$

$$b = 2$$

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



(b) Test your equation for the value $x = 2$.

COPY NOTES ON LOOSELEAF

STEPS TO WRITING EQUATIONS IN SLOPE-INTERCEPT FORM

Step 1: Take two points and find the slope (**m**)

Step 2: Pick one of the given coordinates (**x**, **y**)

Step 3: Substitute the slope (**m**), **x**, and **y** into

$$y = mx + b$$

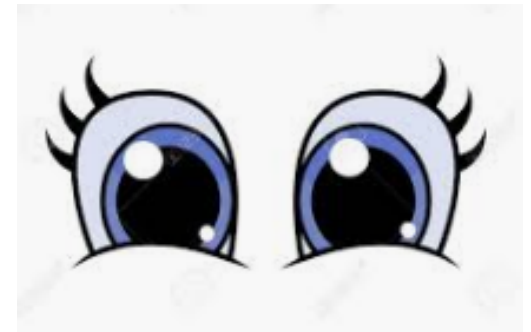
Step 4: Solve for the y-intercept (**b**)

Step 5: Substitute the slope (**m**) and the

y-intercept (**b**) into $y = mx + b$



Just Watch



x_1 y_1 x_2 y_2

Find the equation of a line that passes through the points (3, 7) and (5, 11)

1) **Slope (m)** = $\frac{\Delta y}{\Delta x} = \frac{y - y}{x - x} = \frac{7 - 11}{3 - 5} = 2$

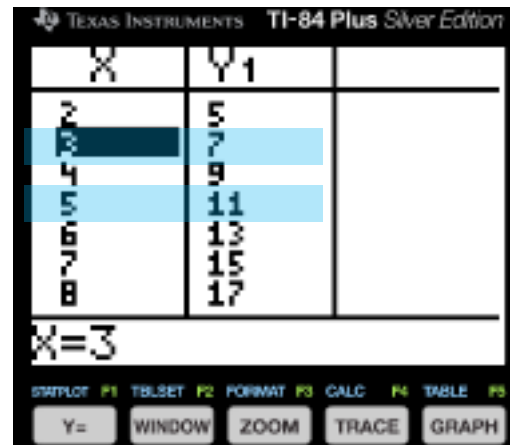
2) **Pick Point:** $(3, 7)$

3) **Substitute:** $y = mx + b$
 $7 = 2(3) + b$

4) **Solve:** $7 = 6 + b$
 $-6 \quad -6$

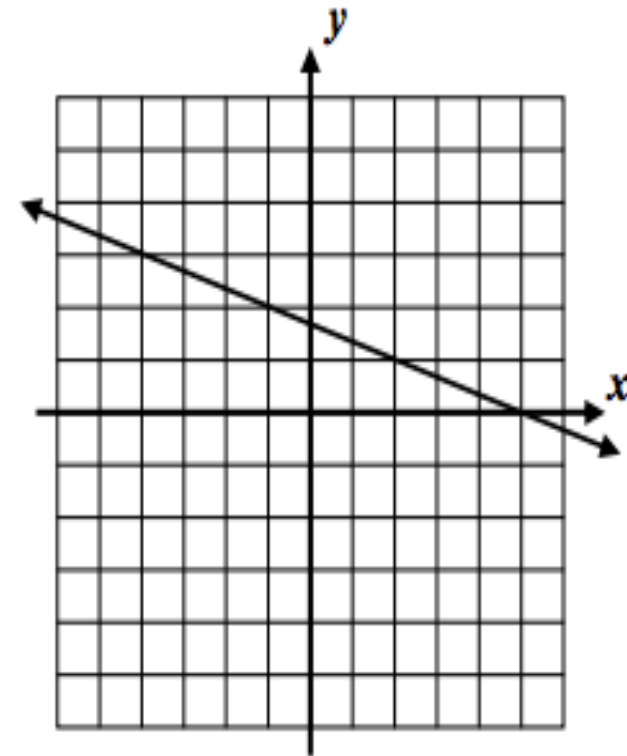
 $1 = b$

5) **Write Equation:** $y = 2x + 1$



When the y -intercept is an **integer**, such as in the last exercise, it is fairly easy to get the **exact relationship** between x and y . Let's try another graphical problem where the y -intercept is not an **integer**.

Exercise #2: Find the equation of the linear function shown in slope-intercept form. Test your equation for $x = -4$.



CLASSWORK: PAGE 27 WITH YOUR PARTNER.

Step 1: Take two points and find the slope (m)

Step 2: Pick one of the given coordinates (x , y)

Step 3: Substitute the slope (m), x , and y into

$$y = mx + b$$

Step 4: Solve for the y-intercept (b)

Step 5: Substitute the slope (m) and the

y-intercept (b) into $y = mx + b$