

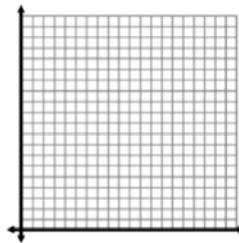
# 6.1 Write Linear Equations in Slope-Intercept Form

## NOTES

Write your questions here!

**VERBAL:** Mr. Brust talks a METRIC-TON in his videos and the other Algebras try to convince him to cut them back. His first video was 27 minutes long but he says he'll cut back 2 minutes each video.

LABEL	LABEL
(units)	(units)
0	
1	
2	
3	



Write the rule:

Initial Value:

Rate of Change:

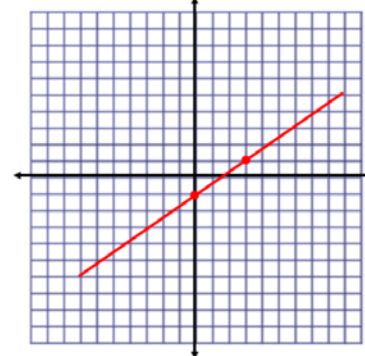
$$y = mx + b$$

Steps to find an equation in slope-intercept form.

Ex 1: What's an equation of this line?

slope = 4  
y-intercept = -6

Ex 2: What's an equation of this line?



Ex #3: What's the equation of a line that passes through the following two points?  
(-3, 1), (0, -8)

Ex #4: Write an equation for the linear function  $f$  with the given values.  
 $f(0) = -2, f(4) = -3$

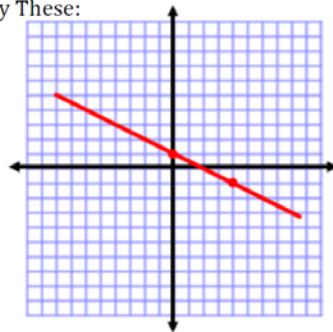
Ex #5: The initial fee to have a website set up using a server is \$48. It costs \$44 per month to maintain the website.

a) Write an equation that gives the total cost of setting up and maintaining a website as a function of the number of months it is maintained.

b) Find the total cost of setting up and maintaining the website for 6 months.

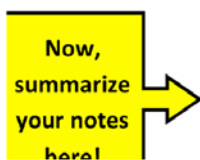
Try These:

1)



2) (0, 4), (6, 13)

**SUMMARY:**



## 6.1 Write Linear Equations in Slope-Intercept Form

## PRACTICE

Write an equation of the line with the given slope and y-intercept.

1) slope: 2  
y-intercept: 9

2) slope: -3  
y-intercept: 0

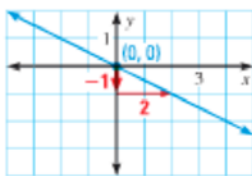
3) slope:  $\frac{2}{3}$   
y-intercept: -9

4) Which equation represents the line with a slope of -1 and a y-intercept of 2?

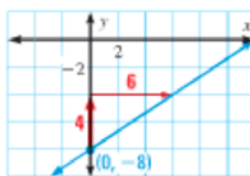
a)  $y = -x + 2$    b)  $y = 2x - 1$    c)  $y = x - 2$    d)  $y = 2x + 1$

Write an equation of the line shown.

5)



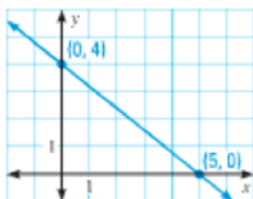
6)



7) Describe and correct the error in writing an equation of the line shown.

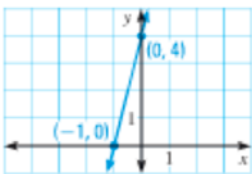
$$\text{slope} = \frac{0 - 4}{0 - 5} = \frac{-4}{-5} = \frac{4}{5}$$

$$y = \frac{4}{5}x + 4$$

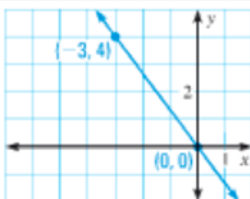


Write an equation of the line shown.

8)



9)



Write an equation of the line that passes through the given points.

10) (2, -7), (0, -5)

11) (0,4), (8, 3.5)

Write an equation of the linear function  $f$  with the given values.

12)  $f(0)=7$ ,  $f(3) = 1$

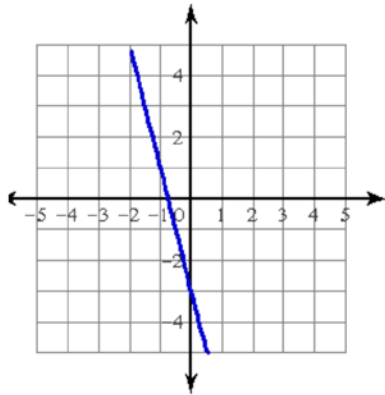
13)  $f(0)=-1$ ,  $f(5) = -5$

## 6.1 Write Linear Equations in Slope-Intercept Form

## APPLICATION

Directions: Find the equation of the line for each situation.

1)



2)  $(0, -2)$  and  $(1, -4)$

3) Mr. Kelly starts up his own HELLO KITTY business. It costs him \$10 to start up and he makes \$5 every month.

a) What's Mr. Kelly's slope (rate of change) for this situation?

b) What's Mr. Kelly's y-intercept (initial value) for this situation?

c) Write an equation of the line for the given situation. Graph the line.

d) How much money would Mr. Kelly have after 10 months?

4) Mr. Brust starts up a rival HELLO KITTY business. At the beginning (0 months) he owes \$2. After 3 months he has \$1.

a) What's Mr. Brust's slope (rate of change) for this situation?

b) What's Mr. Brust's y-intercept (initial value) for this situation?

c) Write an equation of the line for the given situation. Graph the line.

d) How much money would Mr. Brust have after 10 months?

