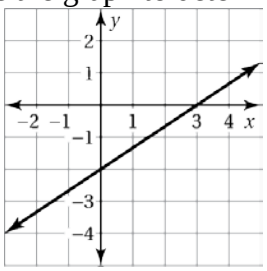
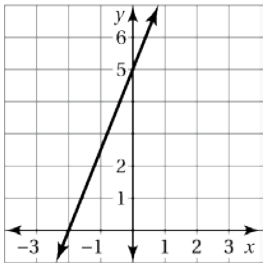
Name: _____ Period: _____

4.5 & 4.6 Standard Form & Writing Equations in Slope Intercept Form

Use the graph to determine the *x*- and *y*-intercepts.

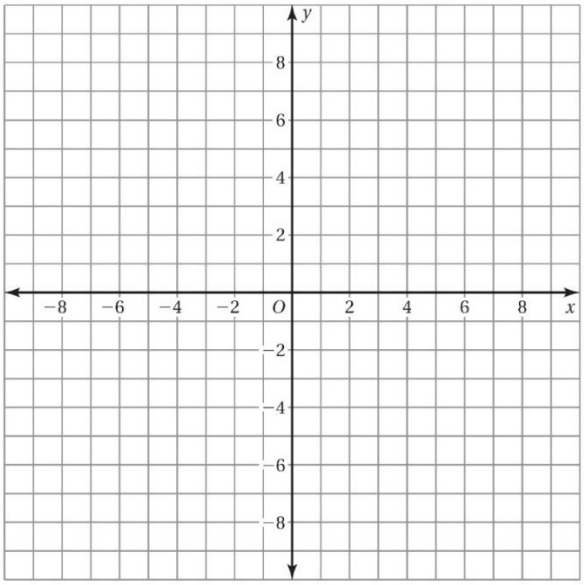
1) 

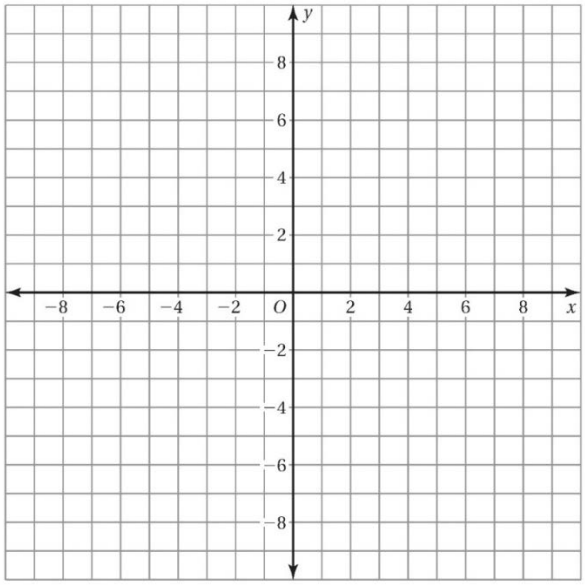
2) 

Graph the linear equation using intercepts.

3) $4x + y = 8$

4) $3x - 2y = 12$





9) The total amount of fiber (in grams) in a package containing x apples and y oranges is given by the equation $5x + 10y = 110$.

a) Find and interpret the *y*-intercept.

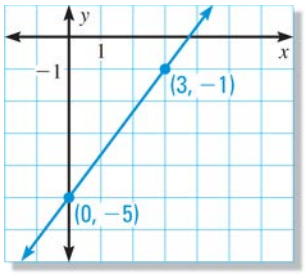
b) Find and interpret the x-intercept.

c) How many grams of fiber does an orange contain?

d) How many grams of fiber does an apple contain?

e) Is it possible for the package to contain 15 apples? Explain.

In the following, identify the *y*-intercept.

10) 

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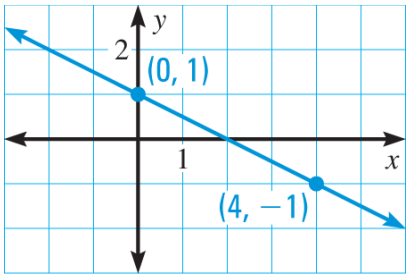
11) 

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12) According to what you notice in #3 and 4, what is always going to be the first number in the coordinates of the *y*-intercept?

13) Give **any** two examples of coordinates that may also be *y*-intercepts of lines.

14) What is the formula for slope? _____

15) What is the equation of a line in slope-intercept form? _____

a) What does the ***m*** stand for? _____

b) What does the ***b*** stand for? _____

16) Write an equation of the line with a slope of -2 and a *y*-intercept of 5. _____

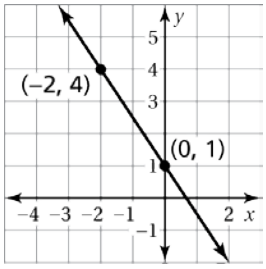
17) Write an equation of the line with a slope of 8 and a *y*-intercept of -7. _____

18) Write an equation of the line with a slope of $-\frac{8}{3}$ and a *y*-intercept of 6. _____

For each of the following graphs of lines:

a) Find the slope
b) Find the *y*-intercept in coordinate form [example: (0, -3)]
c) Find the equation of the line in slope-intercept form.

19)

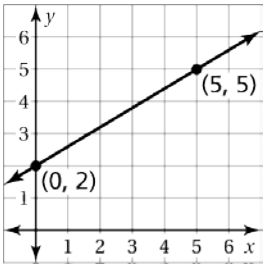


a) slope = _____

b) *y*-int = _____

c) _____

20)

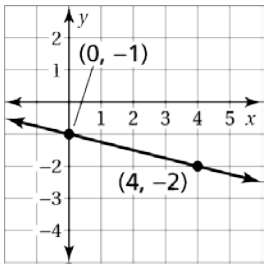


a) slope = _____

b) *y*-int = _____

c) _____

21)

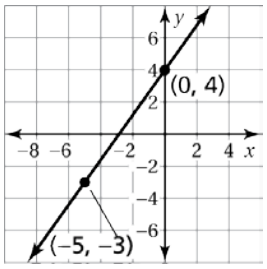


a) slope = _____

b) *y*-int = _____

c) _____

22)



a) slope = _____

b) *y*-int = _____

c) _____

For each of the following, you will be finding the equation of the line that passes through the given points.

a) Find the slope (Clue: there is a formula for this, and you've written it earlier on this paper)
b) Identify the *y*-intercept between the two given coordinates
c) Find the equation of the line in slope-intercept form.

23) $(0, 0), (4, -2)$

a) slope = _____

b) *y*-int = _____

c) _____

24) $(-2, 6), (0, 3)$

a) slope = _____

b) *y*-int = _____

c) _____

25) $(-4, -1), (0, 5)$

a) slope = _____

b) y-int = _____

c) _____

26) $(0, -3), (1, -5)$

a) slope = _____

b) y-int = _____

c) _____

Attempt to do the following problems to the best of your ability.

27) A plant is 3 inches tall when you purchase it and grows 2 inches per month. Write an equation that represents the height y (in inches) of a plant that you purchased x months ago.

28) You go to the movies and pay $10 for a ticket to see the movie. Each bag of skittles cost $4. Write an equation, in slope-intercept form, that shows the total cost y (in dollars) of the ticket and x number of bags of skittles.

29) You are planning on participating in a walk-a-thon to raise money for charity. Your Dad offers to donate $20 for you to participate AND will pay an additional $5 for every mile you walk.

a) Write an equation that describes the situation.

b) Interpret the slope. (What does the slope mean in this problem?)

c) Interpret the y-intercept. (What does the y-intercept mean in this problem?)