

**(Sect 4.5) Identify the slope and y-intercept of each equation.**

1)  $y = \frac{3}{5}x - 6$

Slope: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

2)  $x + 5y = 2$

Slope: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

3)  $y = 3$

Slope: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

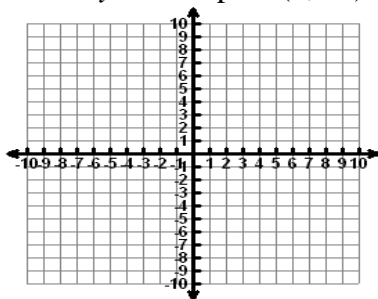
4)  $x = -3$

Slope: \_\_\_\_\_

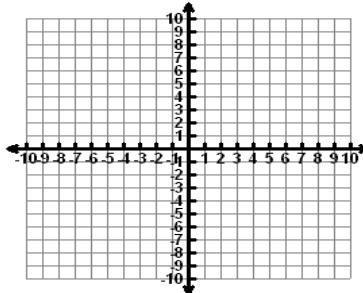
Y-intercept: \_\_\_\_\_

**(Sect 4.5) Graph each equation with the given information.**

4) Graph a line where the slope is at  $-2$  and y-intercept is  $(0, -3)$

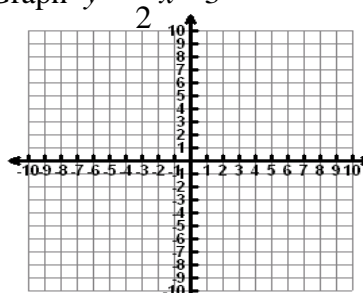


5) Graph  $y = 3 - 2x$



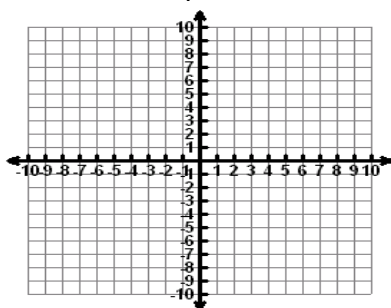
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

6) Graph  $y = \frac{1}{2}x - 3$



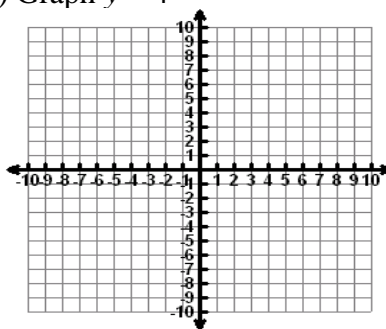
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

7) Graph  $y = -\frac{5}{4}x + 1$



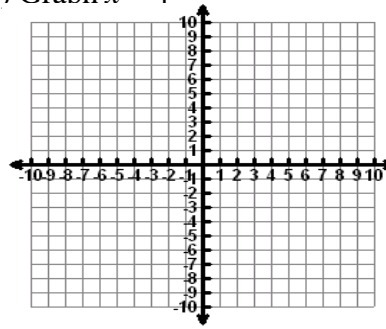
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

8) Graph  $y = 4$



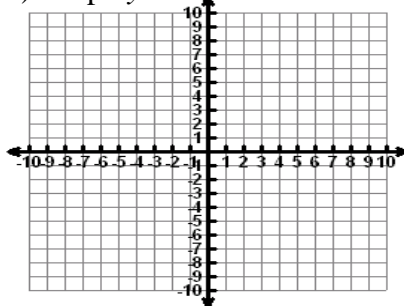
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

9) Graph  $x = 4$



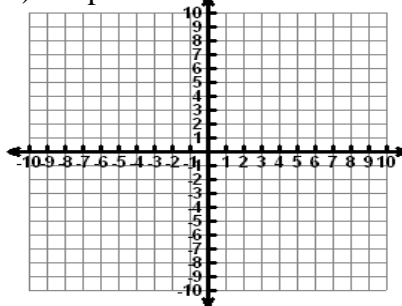
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

10) Graph  $y = 4$



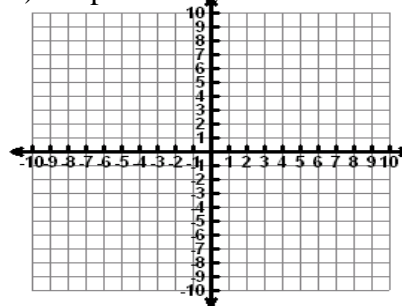
$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

11) Graph  $3x - 2y = 4$



$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

12) Graph  $2x + 4y = -8$



$m = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

13) You were graphing  $y = 2x - 3$  by hand and want to check it on the graphing calculator. What are two ways you can check on your graphing calculator to see if you graphed it correctly?

1: \_\_\_\_\_

2: \_\_\_\_\_

**(Sect 4.6) Determine whether the equation is a direct variation. If so, find the constant of variation.**

14)  $-12x = 6y$

Direct Vari.? **YES** or **NO**

Constant of Variation: \_\_\_\_\_

15)  $y + 8 = -x$

Direct Vari.? **YES** or **NO**

Constant of Variation: \_\_\_\_\_

16)  $5x - 6y = 0$

Direct Vari.? **YES** or **NO**

Constant of Variation: \_\_\_\_\_

17)  $-4 + 7x + 4 = 3y$

Direct Vari.? **YES** or **NO**

Constant of Variation: \_\_\_\_\_

18) Suppose  $y$  varies directly as  $x$ , and  $y = 6$  when  $x = 1$ . Find  $x$  when  $y = 20$ .  $x =$  \_\_\_\_\_

19) Suppose  $y$  varies directly as  $x$ , and  $y = 12$  when  $x = 5$ . Find  $y$  when  $x = 15$ .  $y =$  \_\_\_\_\_

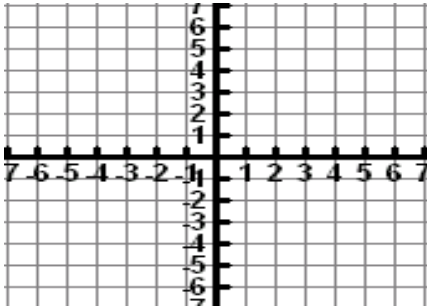
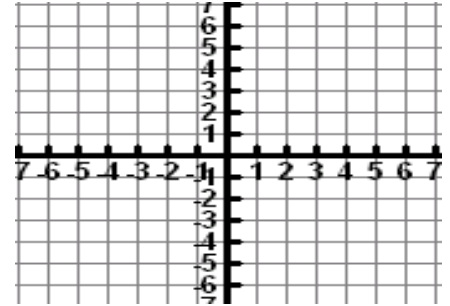
**(Sect 4.7) Transformations of Linear Functions.**

20) Graph the line of  $y = -2x + 3$ .

A) Write the equation of the new line if the line is shifted 6 units down. \_\_\_\_\_

\_\_\_\_\_

B) Graph the new line and compare the two lines. \_\_\_\_\_



21) Graph the line of  $y = \frac{2}{3}x - 3$

A) Write the equation of the new line if the line is shifted 2 times steeper. \_\_\_\_\_

\_\_\_\_\_

B) Graph the new line and compare the two lines. \_\_\_\_\_

22) What is the effect on the graph of the equation  $y = -x - 4$  if the  $y$ -intercept is changed to 1? \_\_\_\_\_

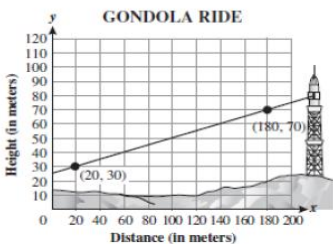
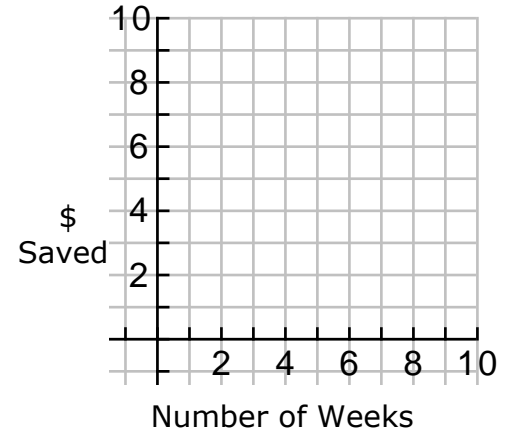
\_\_\_\_\_

23) Number the following in order from most steep to least steep:  $y = -3x$   $y = 2x - 1$   $y = -\frac{1}{3}x + 4$   $y = 4x + 2$

24) Little Johnny has \$2 in his piggy bank. He decides that he wants so save \$1 more each week.

a) Graph the linear function that represents how much money Johnny has saved after  $x$  weeks. Label it  $A$ .

b) Graph the linear function that represents how much money Johnny has saved after  $x$  weeks if he decides to save \$2 more each week instead. Label it  $B$ .



25) An engineer needs to determine the slope between two points of a gondola ride in order to evaluate the power requirements when the gondola is full of passengers. A coordinate grid has been placed over a diagram between the two points, as shown below. For estimation purposes, a straight line between the two points can be used to find the slope. Assuming the cable runs in a straight line, what is the slope of the line between the two points shown?

**Find the value of  $x$  so that the function has the given value. Leave answers in IMPROPER FRACTION.**

$f(x) = -6x + 5$	$g(x) = 2x - 3$	$h(x) = -\frac{1}{2}x - 7$
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26)  $f(3) =$  \_\_\_\_\_ 27)  $g(7) =$  \_\_\_\_\_ 28)  $h(-6) =$  \_\_\_\_\_ 29)  $f(3) - g(7) =$  \_\_\_\_\_