Study Guide for End of Chapter Quiz

Learning Target 3: Write the equations of lines (2-3 Pg. 74)

1.) Identify the slope and the y-intercept for each of the linear equations:

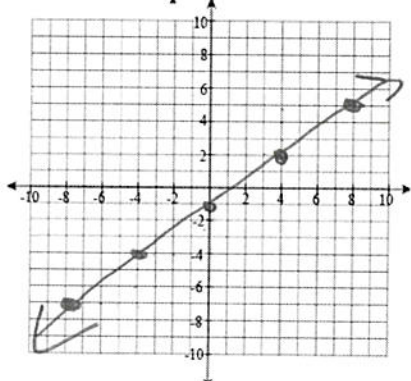$y = -2x + 8$ $y = \frac{5}{6}x + 7$ $y - 10 = 2(x - 8)$

$m = -2$ $m = \frac{5}{6}$ $m = 2$

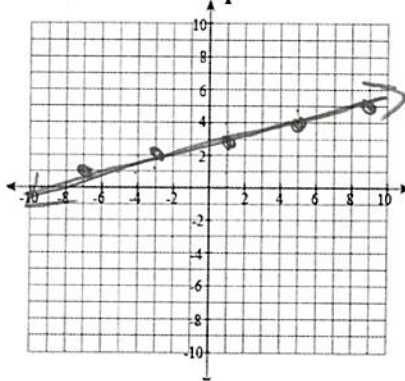$b = 8$ $b = 7$ $b = -6$

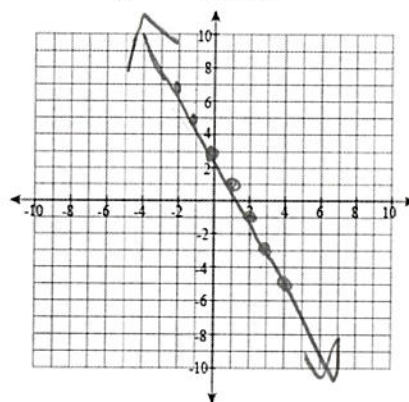2.) Graph each of the following lines:

$y = \frac{3}{4}x - 1$ $y - 3 = \frac{1}{4}(x - 1)$ $y = -2x + 3$

3.) Write each of the equations below in slope-intercept form:

$y - 6 = -2(x + 6)$ $y + 5 = \frac{3}{4}(x - 4)$ $6x + 2y = 18$

$y = -2x - 6$ $y = \frac{3}{4}x - 8$ $y = -3x + 9$

Learning Target 4: Write an equation of a line given its slope and a point on the line (2-4 Pg. 81)

4.) What is the slope of the line that passes through the points:

(5 , 9) and (7 , 17)   (-2 , 3) and (1 , 4)   (0 , 10) and (4 , 7)

$\frac{17-9}{7-5} = \frac{8}{2} = \boxed{4}$ $\frac{4-3}{1--2} = \frac{1}{3}$ $\frac{7-10}{4-0} = -\frac{3}{4}$

5.) Write the equation in point-slope form for a line with the points:

(2 , 5) and (3 , 8)   (4 , 7) and (6 , 3)   (-3 , 0) and (5 , 4)

$\frac{8-5}{3-2} = \frac{3}{1} \boxed{3}$ $\frac{3-7}{6-4} = \frac{4}{2} \boxed{2}$ $\frac{4-0}{5--3} = \frac{4}{8} \boxed{\frac{1}{2}}$

$y - 5 = 3(x-2)$ $y - 7 = 2(x-4)$ $y - 0 = \frac{1}{2}(x--3)$

or   or $y = \frac{1}{2}(x+3)$

$y - 8 = 3(x - 3)$ $y - 3 = 2(x-6)$ $y - 4 = \frac{1}{2}(x-5)$

Learning Target 5: Write linear equations from real-world data (2-5 Pg. 92)

6.)   Aronnia is completing a Hot Cheeto challenge. She has already ate 5 bags of Hot Cheetos and eats 3 more every hour. Write the function that describes this situation. At this rate, how long will it take her to eat 23 bags of Hot Cheetos?

$m = 3/hour$ $b = 5 bags$ $f(x) = 23$

$f(x) 3x + 5$ $23 = 3x + 5$ $18 = 3x$ $x = 6 hours$
$-5-5$

7.) Jaylin wants to add to his shoe collection. He has 10 pairs of shoes and adds a new pair every month. Write an equations that describes this situation. How long will it take for him to have a dozen pairs of shoes?
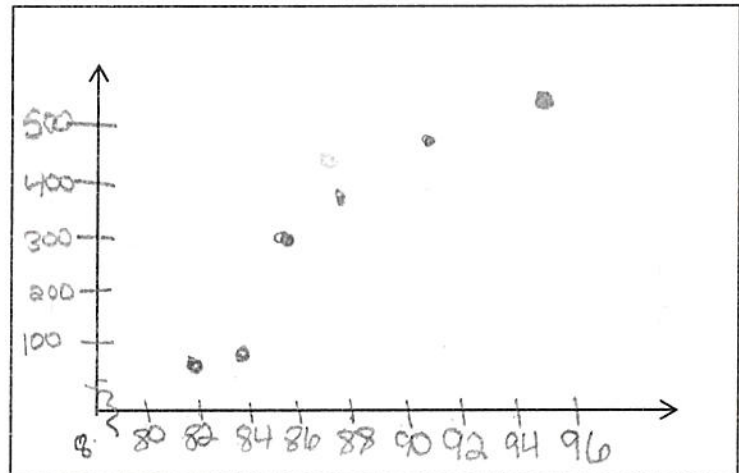
$m = 1 pair/month$ $b = 10 pairs$ $y = 12$

$y = 1x + 10$ $12 = 1x + 10$ $1x = 2$ $2 months$
$-10-10$

8.)   Make a scatter plot and find the best fit line.

Day	Temp in °F	Beach Visitors
June 11th	82	85
July 3rd	84	97
July 16th	88	450
Aug 17th	96	525
Sept 5th	86	300

$$9 2 \qquad 4$$
$$y = 32.8x - 2571.$$
$$y = 36.5x - 2437$$

Learning Target 6: Analyze transformations of functions (2-6 Pg. 99)

9.)   Describe the transformation changes for each of the following 2 graph shifts:

$y = 4x + 1$ and $y = 4x + 6$ $y = 2(x + 1)$ and $y = 2(x - 3)$ $y \div 3 = -2(x + 1)$ and $y + 5 = -2(x - 7)$

translate up 5   translate right 4   translate down 2
                                                    tranlate right 8

10.) What is the new equation of $y + 2 = \frac{1}{2}(x - 4)$ when you make each of the following translations:

Translate up 3 units   *Translate to the left 2 units*   *Translate down 1 unit and right 3 units*

$y - 1 = \frac{1}{2}(x - 4)$ $y + 2 = \frac{1}{2}(x - 2)$ $y + 3 = \frac{1}{2}(x - 1)$

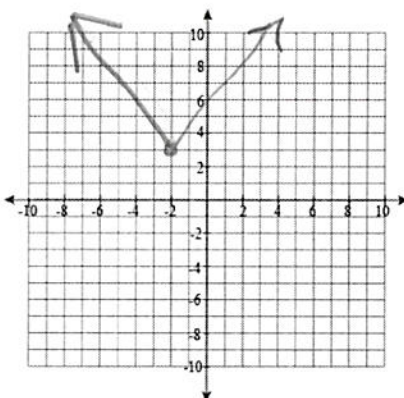Algebra 2   Name: _____

Learning Target 7: Graph absolute value functions (2-7 Pg. 107)

11.) Graph each of the following linear absolute value equations:
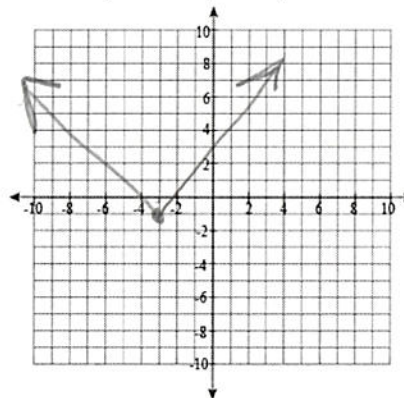
$$y = |x - 5|$$ $$y = |x + 2| + 3$$

$$y - 1 = |x + 3|$$

12.) What is the vertex of the linear absolute value functions:

$$f(x) = |x + 1| + 4$$ $$f(x) = |x + 6|$$ $$f(x) = |x| - 9$$
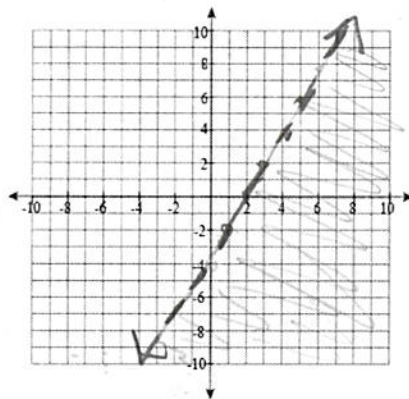
$(-1, 4)$ $(-6, 0)$ $(0, -9)$
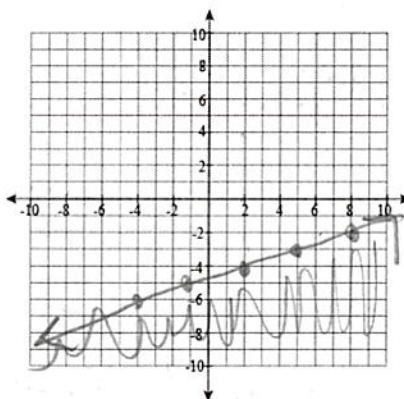
Learning Target 8: Graph two-variable inequalities (2-8 Pg. 114)

13.) Sketch the graph of each of the following equations:

$$y < 2x - 4$$ $$y + 4 \leq \frac{1}{3}(x - 2)$$ $$y - 1 > -2(x + 3)$$