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**Study Guide for End of Chapter Quiz**

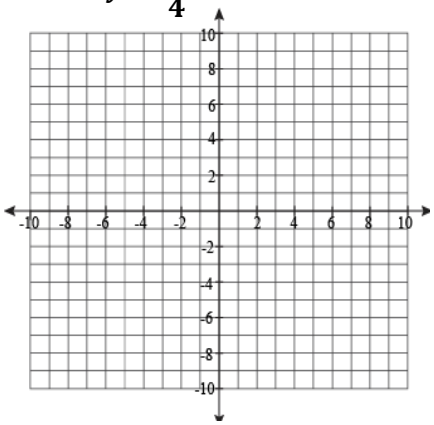
***Learning Target 3: Write the equations of lines (2-3 Pg. 74)***

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

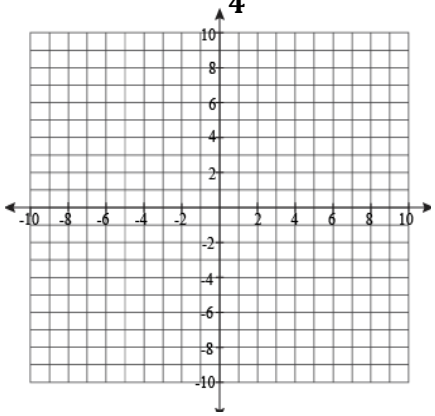
**y = -2x + 8** $\mathbf{y = \frac{5}{6}x + 7}$ **y – 10 = 2(x – 8)**

2.) Graph each of the following lines:

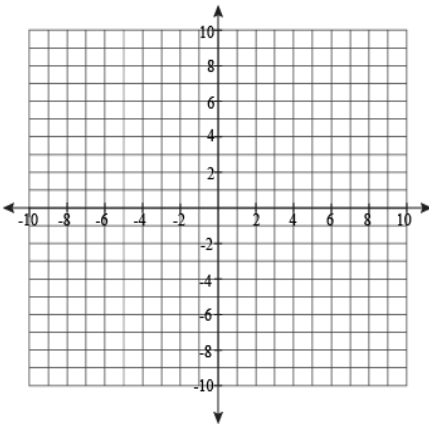
$\boldsymbol{y = \frac{3}{4}x - 1}$



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



$\boldsymbol{y = -2x + 3}$



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

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

***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)

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)

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***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?

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?

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

| Day | Temp in ◦F | Beach Visitors |
|---|---|---|
| June 11th | 82 | 85 |
| July 3rd | 90 | 489 |
| July 16th | 88 | 372 |
| Aug 5th | 96 | 525 |
| Aug 17th | 92 | 458 |
| Sept 5th | 86 | 300 |
| Sept 15th | 84 | 202 |

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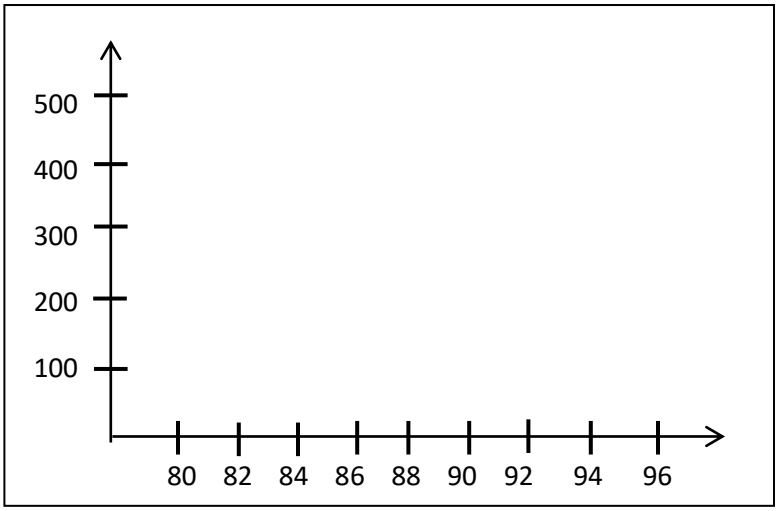


***Learning Target 6: Analyze transformations of functions (2-6 Pg. 99)***

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 + 3 = -2(x + 1) and y + 5 = -2(x – 7)

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*

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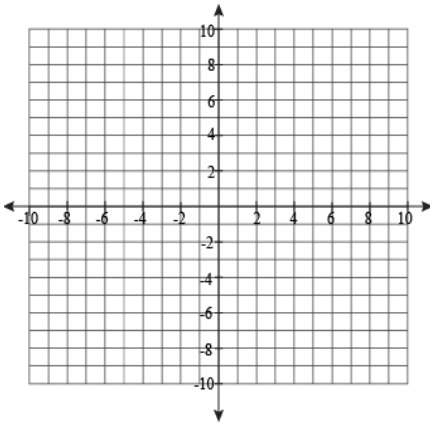
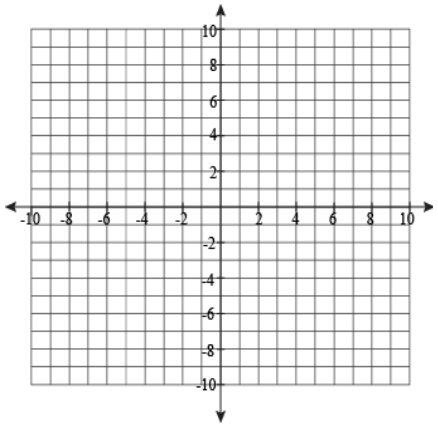
***Learning Target 7: Graph absolute value functions (2-7 Pg. 107)***

11.) Graph each of the following linear absolute value equations:

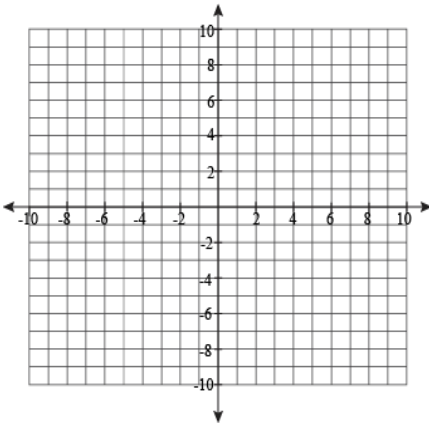
$y = |x - 5|$



$y = |x + 2| + 3$



$y - 1 = |x + 3|$



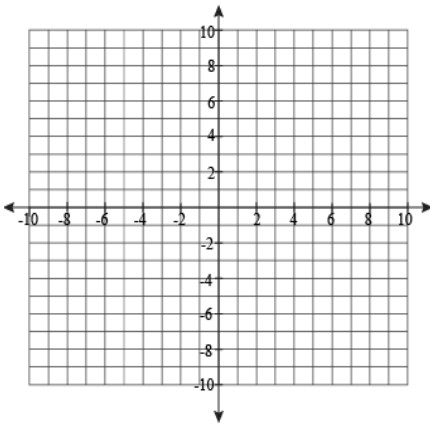
12.) What is the vertex of the linear absolute value functions:

f(x) = |x + 1| + 4 f(x) = |x + 6| f(x) = |x| – 9

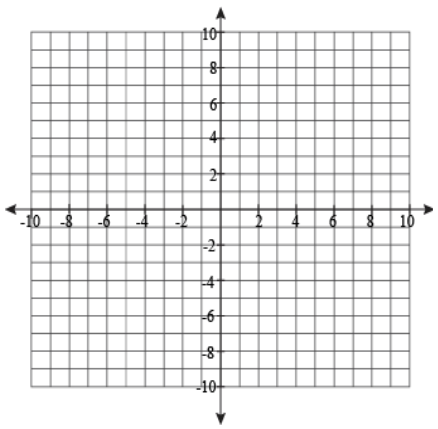
***Learning Target 8: Graph two-variable inequalities (2-8 Pg. 114)***

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

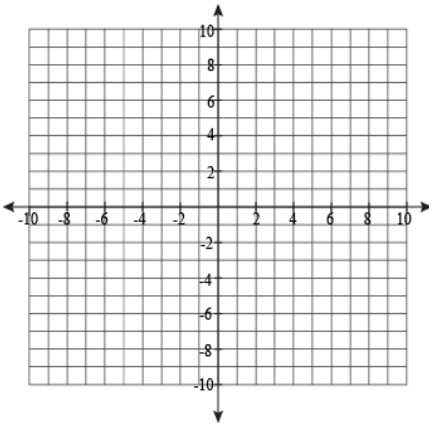
$y < 2x - 4$



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



$y - 1 > -2(x + 3)$



**BONUS:** If $f(x) = 2x + 7$ what would the function $f(x) - 4$ look like? Describe the translation and give the new function.