Interpreting Changes in Slope and Intercepts – Day 2
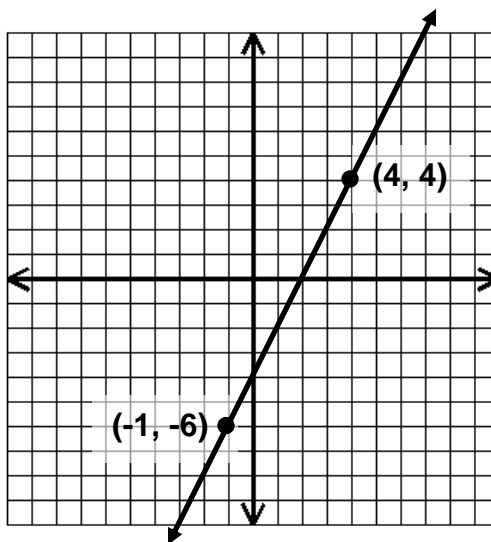
Use the graph of the linear function shown to answer questions 1 – 6.

Original Equation:

$y = $ _____

(4, 4)

(-1, -6)

Write the equation of the new line if…

1. _____	the y-intercept is changed to (0, 3) and the slope is doubled
2. _____	the slope and y-intercept are divided by $\dfrac{-1}{4}$
3. _____	the line is translated down 5 units

Answer the following, using the original equation from the graph above.

_____4. If the y-intercept is changed to (0, -5) and the slope becomes $-\dfrac{1}{2}$, which statement best

describes the relationship between the two lines when they are graphed on the same coordinate grid?

    A. The y-intercepts are 1 unit apart, and the lines are parallel.
    B. The y-intercepts are 1 unit apart, and the lines are perpendicular.
    C. The y-intercepts are 1 unit apart, and the lines intersect at (-1, 6).
    D. The y-intercepts are 1 unit apart, and the lines intersect at (0, 4).

_____5. What will happen to the slope if the line is shifted so that the x-intercept is negative and the
      y-intercept remains the same?

    A. The slope will change from negative to positive.   C. The slope will be negative.
    B. The slope will remain constant.   D. The slope will be positive.

_____6. Which of the following best describes the effect on the graph when the slope is doubled?

    A. The y-intercept increases.   C. The x-intercept increases.
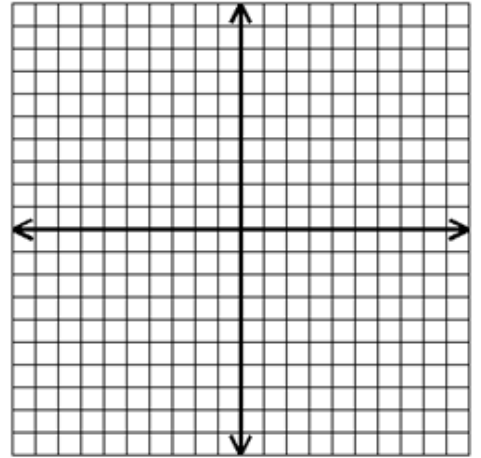   B. The y-intercept decreases.   D. The x-intercept decreases.

Use the following equation to answer questions 7 – 10.

Original Equation: 4x + 5y = 15

7. Graph the equation on the coordinate grid to the right.	
8. If the slope is multiplied by $\frac{1}{6}$, what is the equation of the new line?	
9. If the y-intercept of the **original equation** is shifted down 7 units, what is the equation of the new line?	

10. If the slope of the **original equation** is divided by $-\frac{8}{15}$ and the y-intercept tripled, what is the equation of the new line?

Review. Show all work.

11. Write the equation of the line that passes through the point (-3, 10) and is parallel to the line represented by the equation -2x + y = -7.
12. The number of muffins that can be made varies directly with the number of eggs needed. If 2 eggs are needed to make 12 muffins, write an equation that can be used to find how many muffins, y, can be made with x eggs.