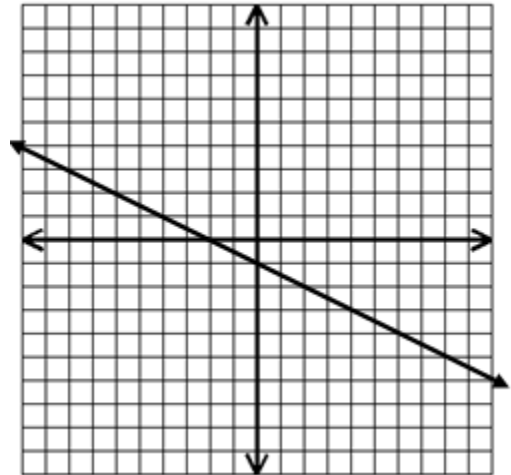


INTERPRETING CHANGES IN SLOPE AND INTERCEPTS – DAY 3

The graph shown contains the points (8, -5) and (-6, 2):

Original Equation:

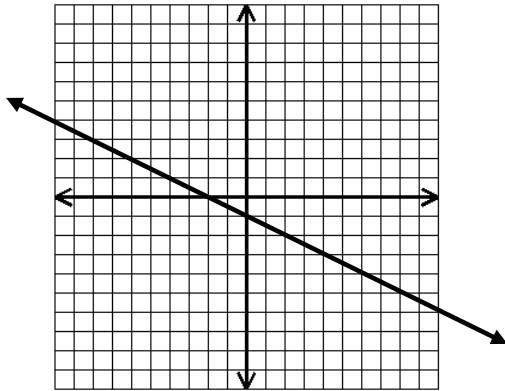
$y = \underline{\hspace{1cm}}x + \underline{\hspace{1cm}}$



1. If the slope of the line is multiplied by -1 and the y-intercept decreases by 2 units, what would be the linear equation that represents these changes?

Original: $y = -\frac{1}{2}x - 1$

New: $y = \underline{\hspace{2cm}}$



The slope changes from _____ to _____.

Do the lines intersect? yes / no

If so, where do they intersect? _____

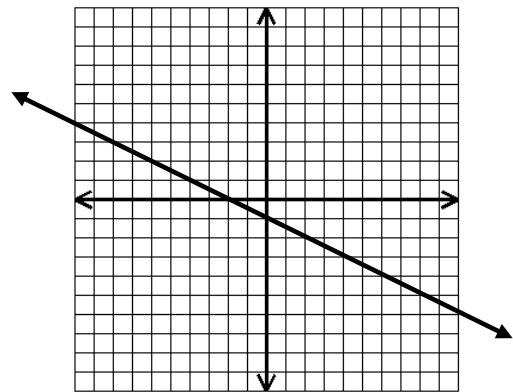
The x-intercept increases / decreases.

The new line is _____ units above / below the original.

The new / original line is steeper.

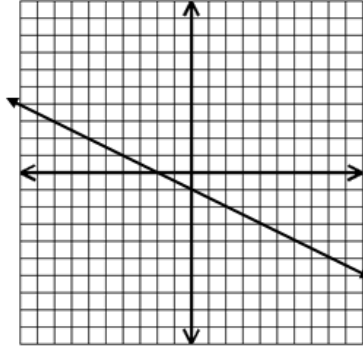
The new is less steep than the original. T / F

2. Which best describes the effect on the x-intercept of the graph of $y = -\frac{1}{2}x - 1$ if the slope changes to $\frac{1}{2}$?

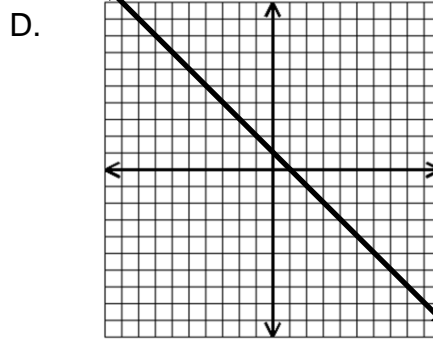
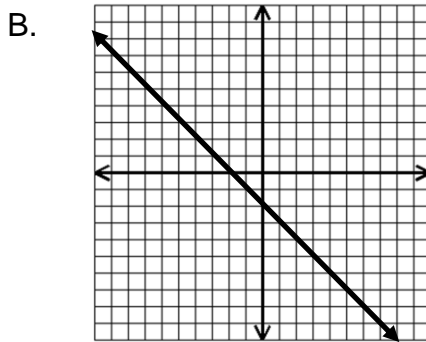
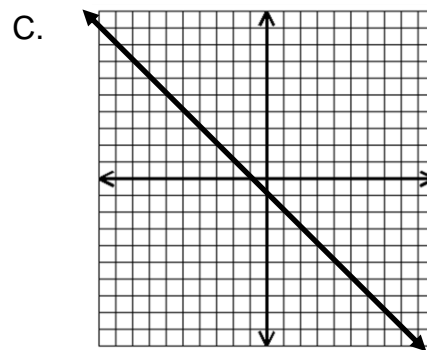
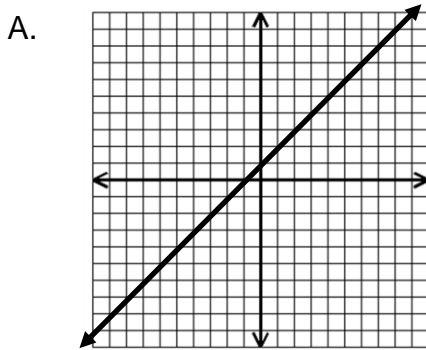


- A. The x-intercept remains the same, and the new line is translated upward.
- B. The x-intercept becomes negative, and the new line is parallel to the original line.
- C. The x-intercept remains the same, and the new line is translated downward.
- D. The x-intercept becomes positive, and the new line intersects the original line.

3. The graph shown contains the points (8, -5) and (-6, 2).

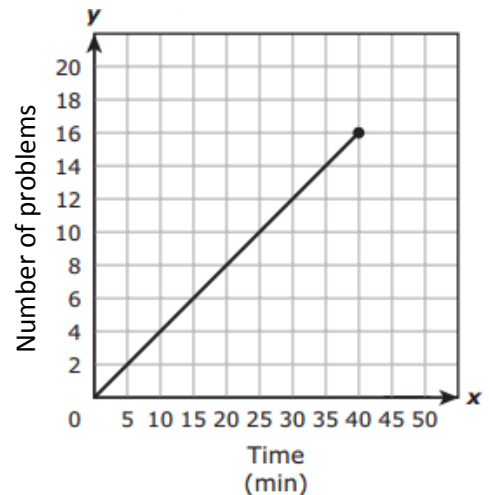


Which graph best represents this line if the slope is doubled and the y-intercept remains constant?

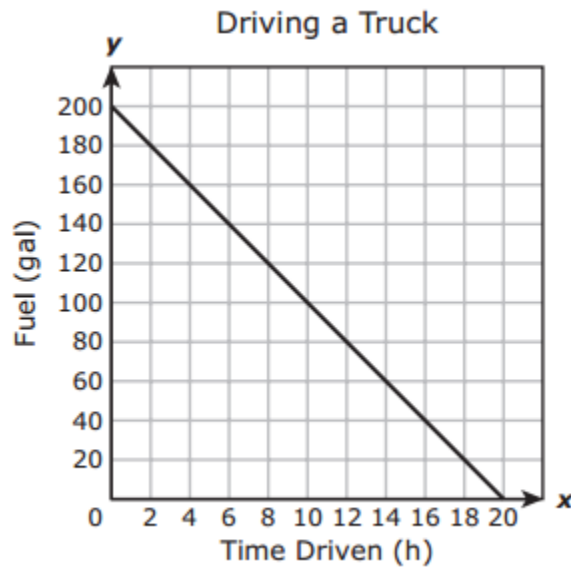


4. The graph shows the time it took Jamie to do 16 algebra questions while watching Netflix. The next day, her mother did not allow her to watch TV while doing homework. Jamie was able to do twice as many problems in the same amount of time. If the new relationship is graphed on the same coordinate grid, which statement is true?

- A. The new graph would have a y-intercept at 2.
- B. The new graph would be steeper than the original graph.
- C. The new graph would be less steep than the original graph.
- D. The new graph would have a y-intercept at 8.



5. The graph below shows the relationship between the number of gallons of fuel remaining in a truck and the number of hours the truck has been driven.



- a) What is the rate of change? What does it represent?
- b) What is the y-intercept? What does it represent?
- c) What is the x-intercept? What does it represent?
- d) Write the equation that represents the amount of fuel remaining, g , in terms of time driven, h .
- e) Suppose the truck begins with 140 gallons of fuel in the tank. What would be the new equation? How would this change affect the graph?
- f) Suppose the truck begins with 200 gallons of fuel but uses 40 gallons every 2 hours. What would be the new equation? How would this change affect the graph?