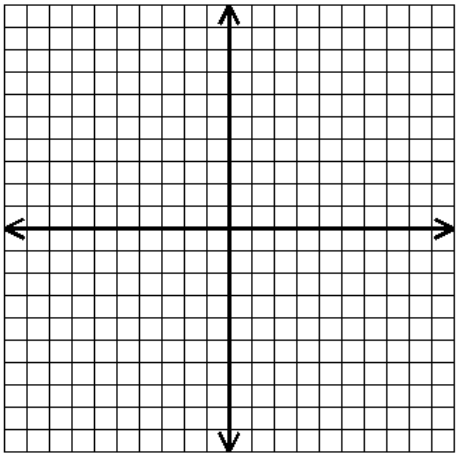
NAME_____DATE_____PER._____

Interpreting Changes in Slope and Intercepts – Day 1

Find the x- and y- intercepts.

1. $4x - y = 4$

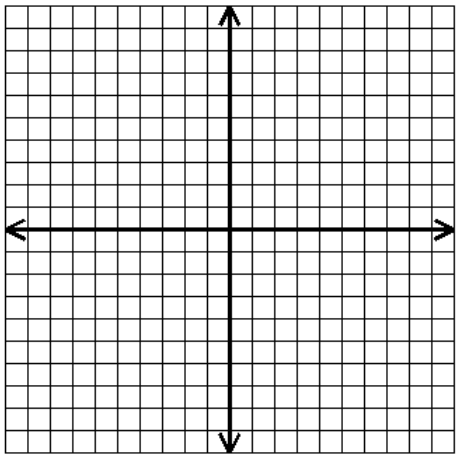


x-intercept: _____

y-intercept:_____

2.

x	y
-8	-2
-4	-4
2	-7
4	-8



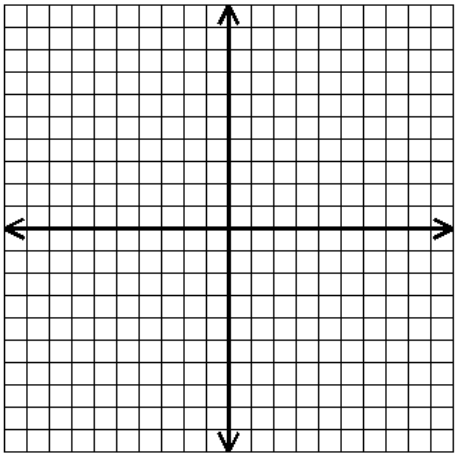
x-intercept: _____

y-intercept:_____

Answer the following.

3. Suppose the slope in problem #1 is changed to ¼. Write & graph the new equation and answer the questions.

Equation: _____



Circle One

The new line is **parallel / perpendicular / neither** to the original line.

The original line is less steep than the new line: **T or F**

The new line is **less steep / steeper** than the original line.

Did the y-intercept change? **Yes / No**.
If so, what is the new y-intercept? _____

The x-intercept **increased / decreased**.

The new line and the original line intersect at _____.

4. Rank the following lines in order of steepness from least steep (1) to steepest (4).

_____ $y = \frac{1}{3}x$ _____ $y = 2.5x - 3$ _____ $y = -x + 4$ _____ $y = -\frac{1}{5}x + 1$

_____**5. Which of the following lines has the steepest slope?**

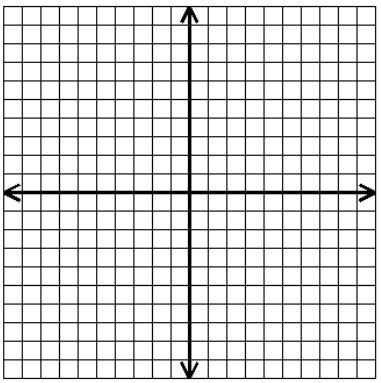
A. $y = \frac{2}{3}x + 5$ B. $y = x + 6$ C. $y = \frac{1}{7}x - 9$ D. $y = 4x - 2$

_____**6. The original function $y = \frac{3}{5}x + 5$ is graphed on the same grid as the new function $y = \frac{3}{5}x - 5$. Which of the following statements about these graphs is true?**

A. The graph of the original function is steeper that the graph of the new function.
B. The graph of the original function is parallel to the graph of the new function.
C. The graphs intersect at (-5, 0).
D. The graphs intersect at (0, 5).

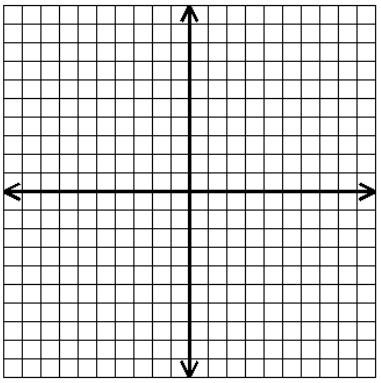
_____**7. Which best describes the effect on the graph of $y = 2x - 3$ if the slope is changed to 5?**

A. The slope of the original graph is less steep than the slope of the new graph.
B. The slope of the original graph is steeper than the slope of the new graph.
C. The x-intercept increases.
D. The y-intercept increases.



_____**8. How does the graph of $y = 2x - 4$ compare to the graph of $y = 5x - 10$?**

A. The graph of $y = 2x - 4$ intercepts the x-axis at the same point as the original function.
B. The graph of $y = 2x - 4$ intercepts the y-axis at the same point as the original function.
C. The graph of $y = 2x - 4$ has a negative x-intercept.
D. The graph of $y = 2x - 4$ has a positive y-intercept.



_____**9. Which best describes the effect on the graph of $f(x) = 4x - 3$ if the y-intercept is changed to 6?**

A. The slope decreases.
B. The new line is perpendicular to the original line.
C. The y-intercept increases.
D. The x-intercept remains the same.