HW 2-5: Effects of *m* and *b*
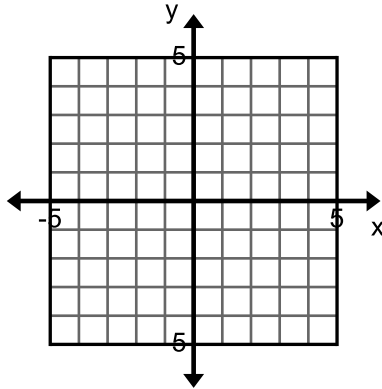
Identify the slope (*m*), *y*-intercept (*b*) and then graph the equation.
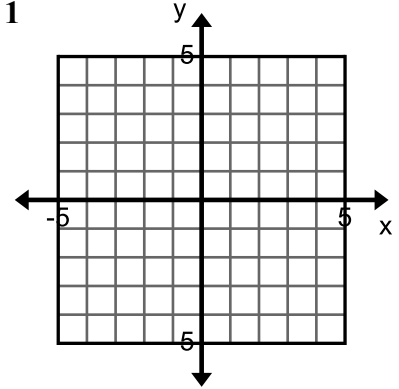
1. $y = -\dfrac{5}{2}x$

m = _____
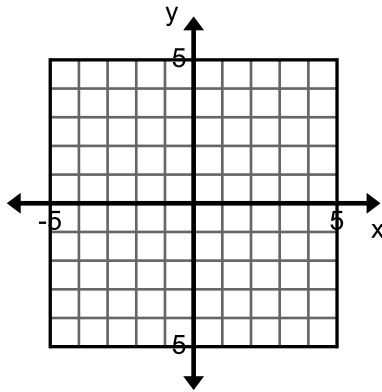
b = _____

3. $y = 2x + 1$

m = _____

b = _____
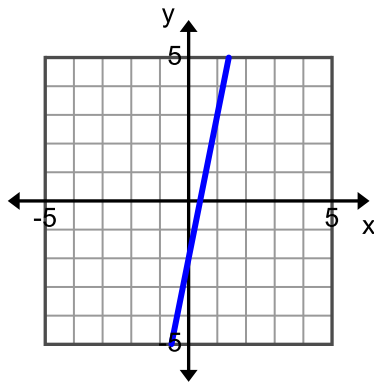
2. $y = -\dfrac{2}{3}x - 4$

m = _____

b = _____

Given the graphs, identify the slope (*m*), *y*-intercept (*b*) and write the equation of the line.
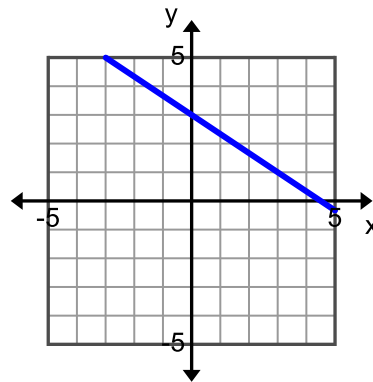
4.

m = _____   *b* = _____

Equation: _____

5.

m = _____   *b* = _____

Equation: _____

Write the slope-intercept form of the equation of each line given the slope and *y*-intercept.

6. slope $= -\dfrac{1}{3}$

   $y-$intercept $= -2$

8. slope $= \dfrac{1}{5}$

   $y-$intercept $= -4$

7. slope $= 0$

   $y-$intercept $= 6$

9. slope $= 5$

   $y-$intercept $= -3$

10. What effect does decreasing the *y*-intercept have on the graph of the equation $y = -2x + 5$?

11. Given the equation $y = 5x + 7$, which of the following equations has a graph with a steeper slope? (There may be more than one correct answer)

   A. $y = 6x + 7$
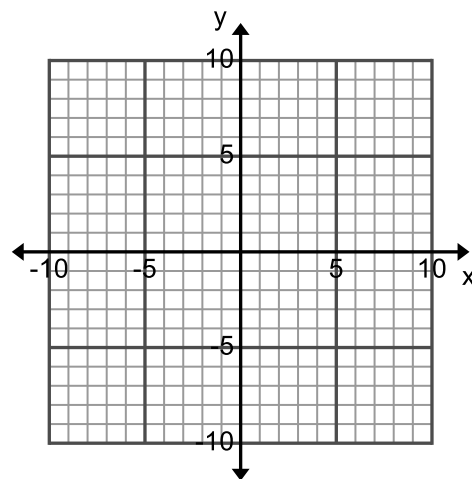   B. $y = 5x + 8$
   C. $y = -4x + 7$
   D. $y = 7x + 5$

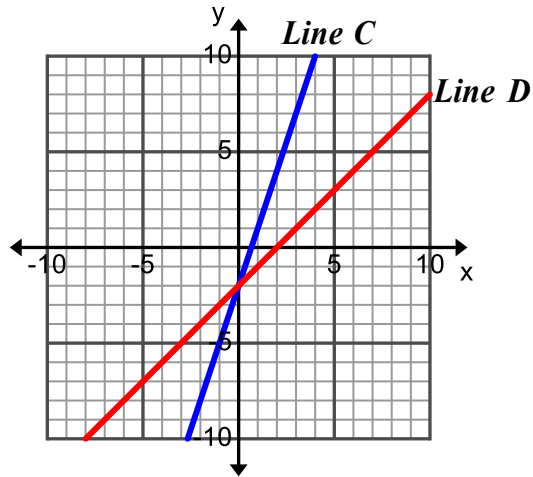12. Which equation below has a steeper slope?

   A. $y = 2x + 9$ B. $y = -8x + 1$

13. Given the equation $y = -3x + 2$, if the line shifts up by 5 units what is the new equation of the line? Then, graph the new equation.

   New Equation: _____

14. Given the equation $y = \dfrac{3}{4}x - 2$, if the slope remains the same and the y-intercept increases by 6 units what is the new equation of the line?

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15. Starting with Line C and going to Line D, which part of the equation changed? Explain how you know.
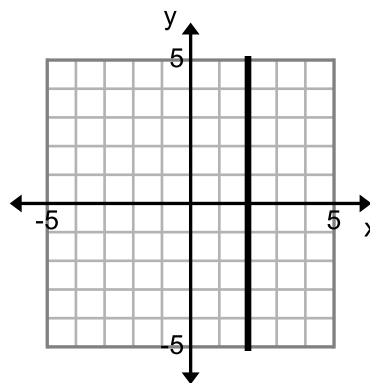
       m   **or**   ***b***   **Explain:** _____

16. How does the slope change from Line C to Line D?

                 increase   **or**   ***decrease***

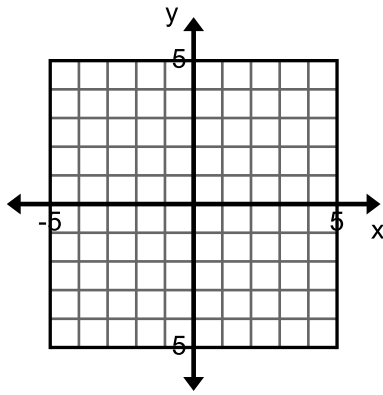**Graph equations 29-31 on the same graph given below. Label each line (or use different colors)**

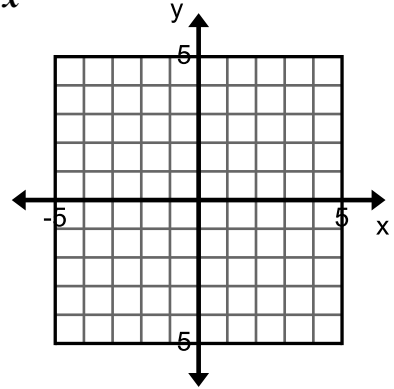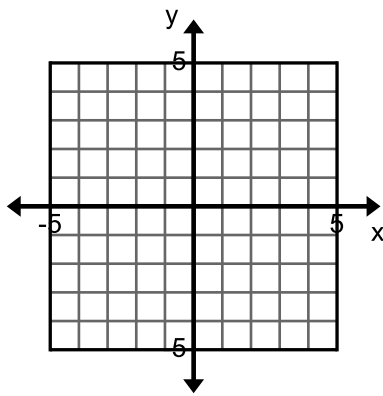**Given equation: $x = 2$**

17. $x = 3$
18. $x = 4$
19. $x = -1$
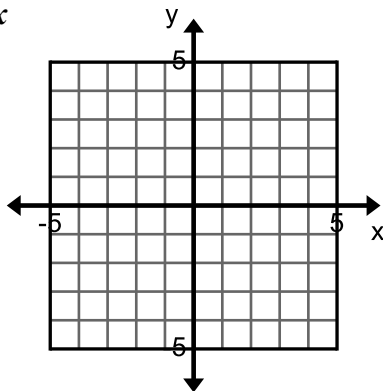
Graph.

21. $y = 3$

24. $y = 4x$

22. $y = x$

25. $x = 2$
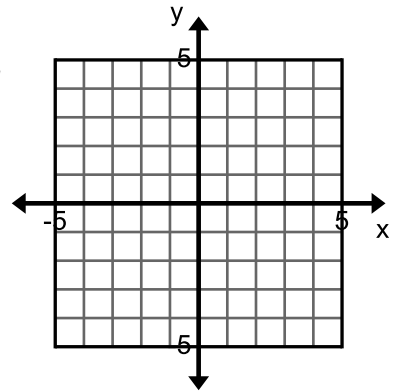
Find the slope between these two points.

26. $(-3 , 5)$ and $(7 , 5)$

23. $y = -x$

Solve for y. (Get y alone)

27. $-3x + 7y = -28$

Solve the equation.

28. $7m + 12 = 3(6 - m)$