

5.4 PRACTICE

Identify the slope and y-intercept of the line with the given equation.

1. $y = 2x + 1$

$m = 2$

$b = 1$

2. $y = 6 - 3x$

$m = -3$

$b = 6$

3. $y = \frac{2}{3}x - 1$

$m = \frac{2}{3}$

$b = -1$

4. **★ MULTIPLE CHOICE** What is the slope of the line with the equation $y = -18x - 9$?

(A) -18

(B) -9

(C) 9

(D) 18

Rewrite the equation in slope-intercept form. Then identify the slope and the y-intercept of the line.

5. $4x + y = 1$

$\begin{array}{r} -4x \\ -4x \\ y = 1 - 4x \\ m = -4 \\ b = 1 \end{array}$

6. $6x - 3y = -9$

$\begin{array}{r} -6x \\ -6x \\ -3y = -9 - 6x \\ \frac{-3y}{-3} = \frac{-9}{-3} - \frac{6x}{-3} \\ y = 3 + 2x \\ m = 2 \\ b = 3 \end{array}$

7. $2x + 5y = -10$

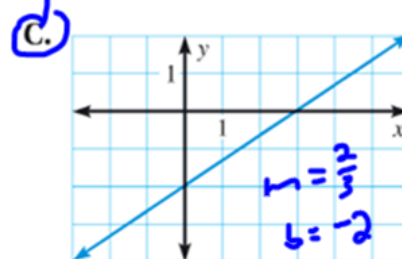
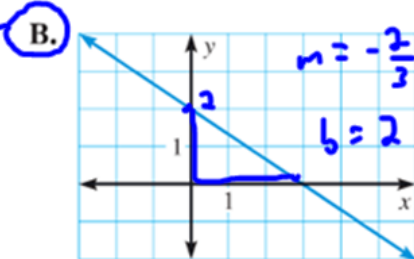
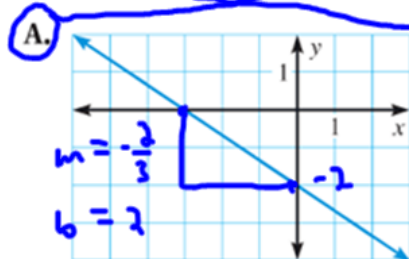
$\begin{array}{r} -2x \\ -2x \\ 5y = -10 - 2x \\ \frac{5y}{5} = \frac{-10}{5} - \frac{2x}{5} \\ y = -2 - \frac{2}{5}x \\ m = -\frac{2}{5} \\ b = -2 \end{array}$

Match the equation with its graph.

8. $y = -\frac{2}{3}x + 2$
 $m = -\frac{2}{3}$
 $b = 2$

9. $y = -\frac{2}{3}x - 2$
 $m = -\frac{2}{3}$
 $b = -2$

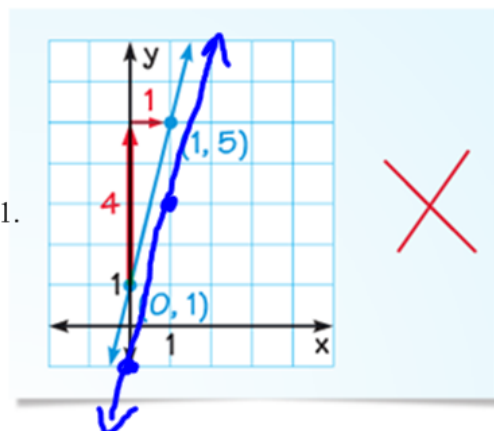
10. $y = \frac{2}{3}x - 2$
 $m = \frac{2}{3}$
 $b = -2$



11. **ERROR ANALYSIS** Describe and correct the error in graphing the equation $y = 4x - 1$.

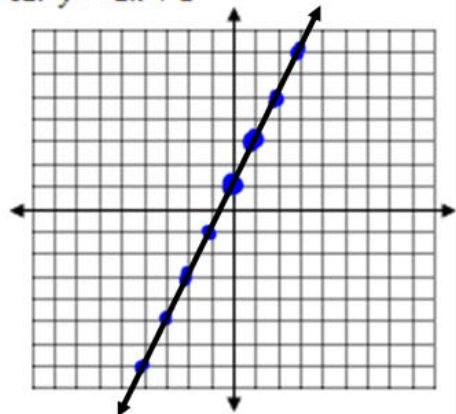
$m = 4$
 $b = -1$

They put the y-intercept at positive 1 when really it is negative 1.

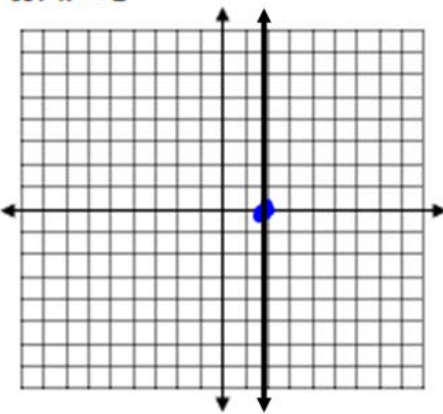


Graph the equations. Plot as many points on the graph that will fit!

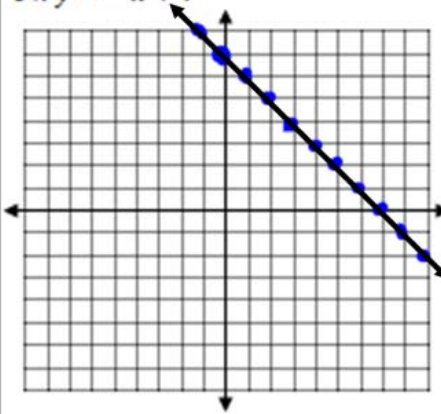
12. $y = 2x + 1$



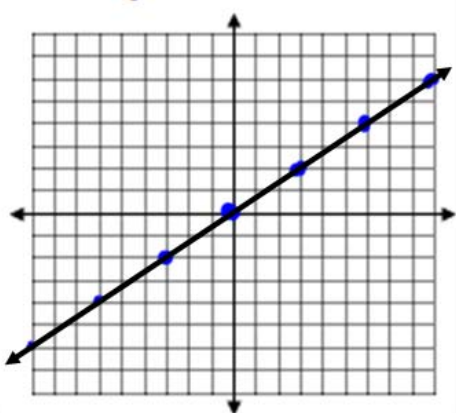
13. $x = 2$



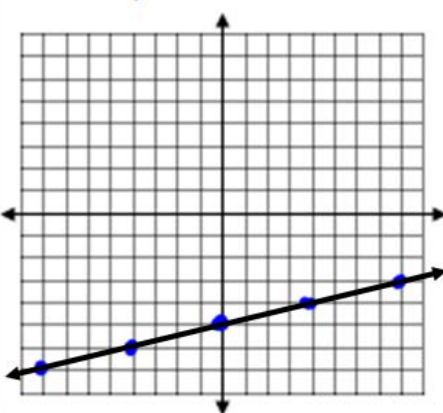
14. $y = -x + 7$



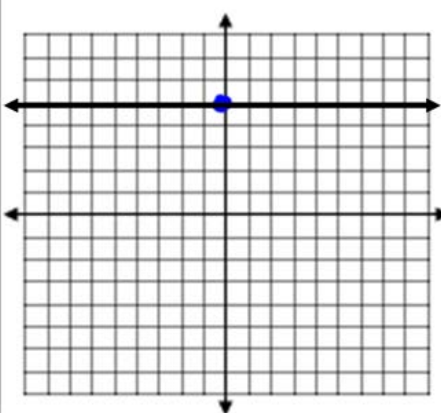
15. $y = \frac{2}{3}x + 6$



16. $y = \frac{1}{4}x - 5$



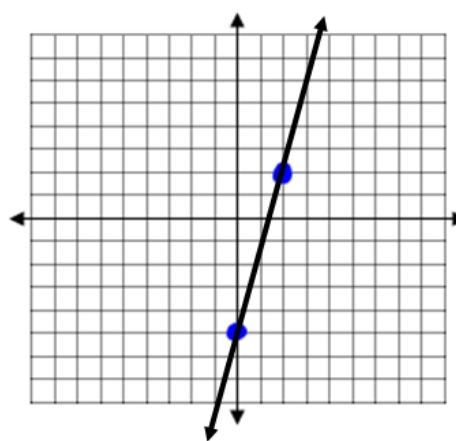
17. $y = 5$



Solve for y and then graph!

18. $7x - 2y = 10$

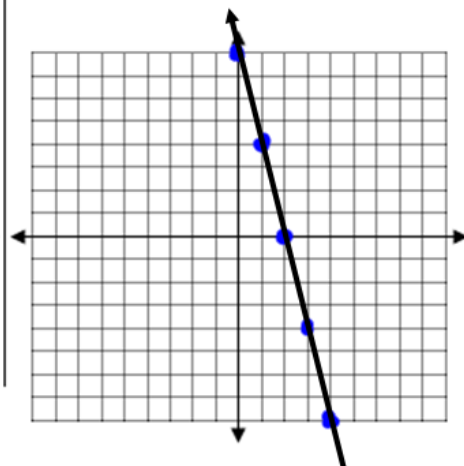
$$\begin{array}{r} -7x \quad -7x \\ -2y = 10 - 7x \\ \frac{-2y}{-2} = \frac{10}{-2} - \frac{7x}{-2} \\ y = -5 + \frac{7}{2}x \end{array}$$



Solve for y and then graph!

19. $8x + 2y = 16$

$$\begin{array}{r} -8x \quad -8x \\ 2y = 16 - 8x \\ \frac{2y}{2} = \frac{16}{2} - \frac{8x}{2} \\ y = 8 - 4x \end{array}$$



Solve for y and then graph!

20. $-2x - y = 5$

$$\begin{array}{r} +2x \quad +2x \\ -y = 5 + 2x \\ \frac{-y}{-1} = \frac{5}{-1} + \frac{2x}{-1} \\ y = -5 - 2x \end{array}$$

