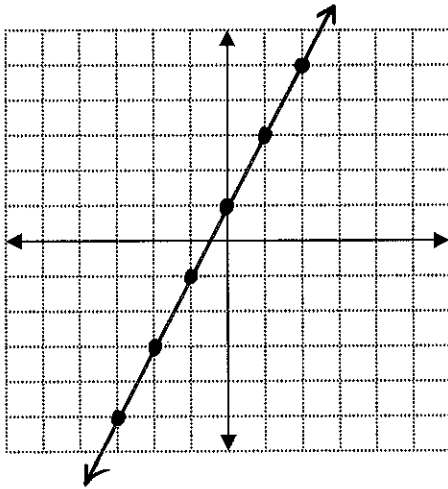
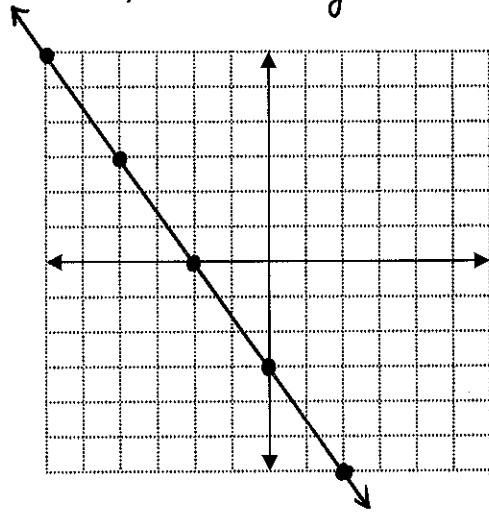


Graph each equation.

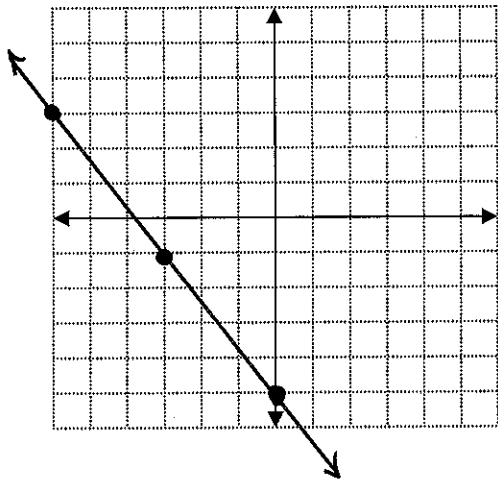
1. $y = 2x + 1$



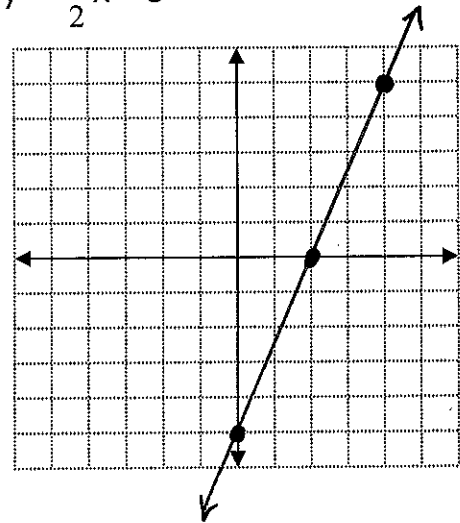
2. $6x + 4y = -12 \rightarrow y = -\frac{3}{2}x - 3$



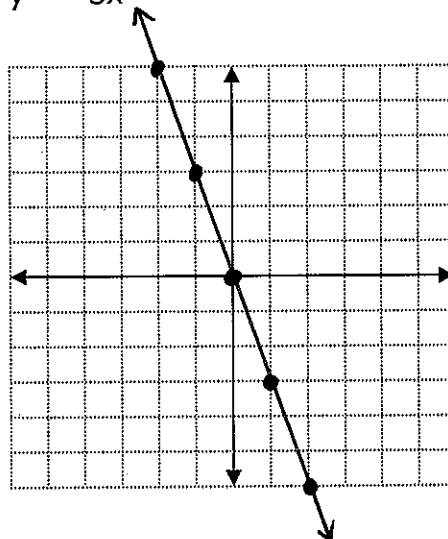
3. $y = -\frac{4}{3}x - 5$



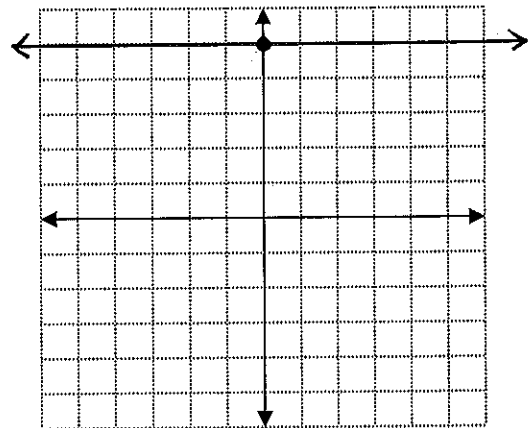
4. $y = \frac{5}{2}x - 5$



5. $y = -3x$

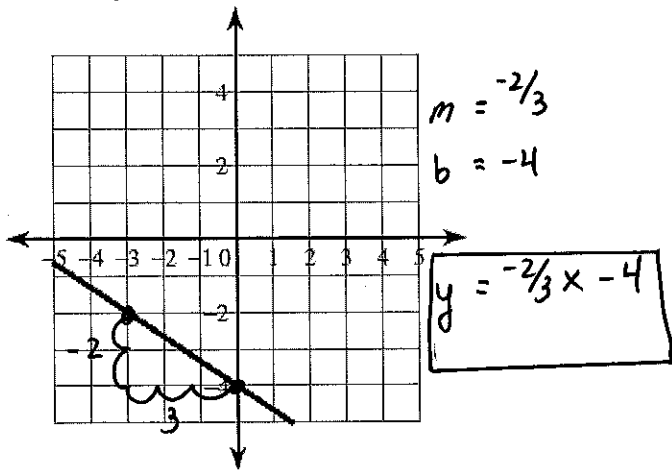


6. $y = 5$

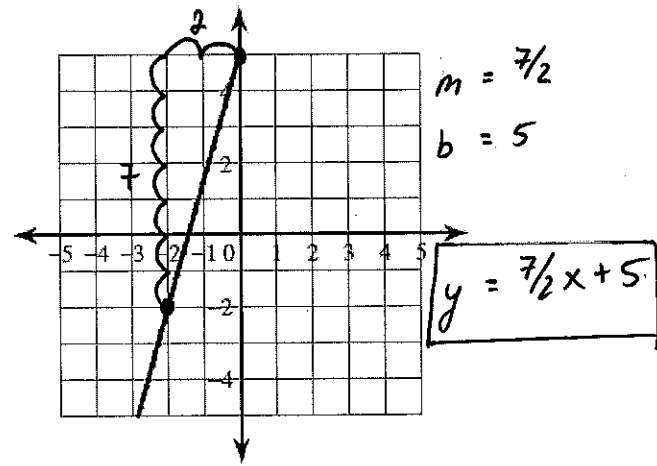


Write an equation of the line shown in each graph.

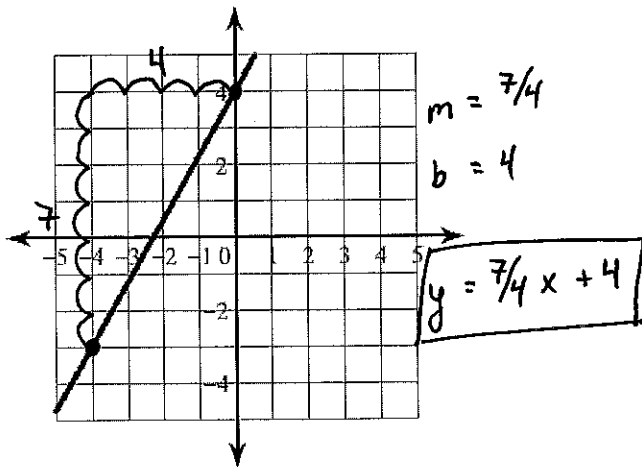
7.



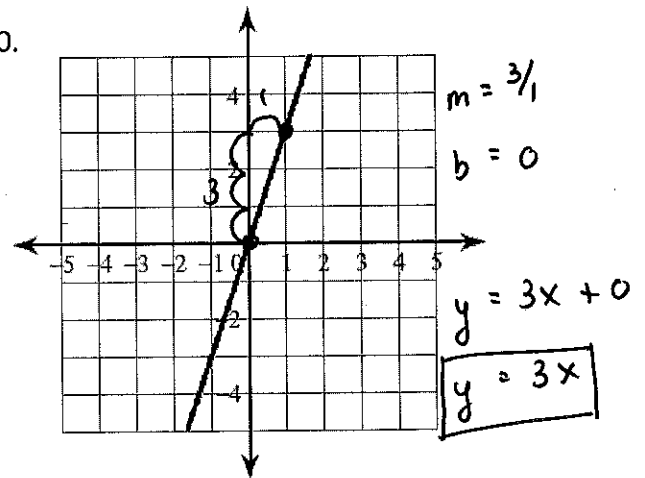
8.



9.



10.



Make sure you know the formulas listed below:

Slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Point-Slope Form

$$y - y_1 = m(x - x_1)$$

Slope-Intercept Form

$$y = mx + b$$

Write the equation of each of the following lines. Your final answer should be in slope-intercept form.

11. Write the equation of a line which has a slope of $-\frac{3}{4}$ and has a y-intercept of 7.

$$y = -\frac{3}{4}x + 7$$

12. Write the equation of a line that has a slope of 5 and passes through the point (-4, -2).

$$y - y_1 = m(x - x_1) \quad \text{OR} \quad y = mx + b$$

$$y - (-2) = 5(x - (-4)) \quad -2 = 5(-4) + b$$

$$y + 2 = 5(x + 4) \quad -2 = -20 + b$$

$$y + 2 = 5x + 20 \quad 18 = b$$

$$\boxed{y = 5x + 18} \quad \boxed{y = 5x + 18}$$

13. Write the equation of a vertical line that passes through the point (-1, 9).

$$m = \text{UNDEFINED}$$

SO

$$\boxed{x = -1}$$

14. Write the equation of the line that has a slope of $-\frac{5}{2}$ and passes through the point (-4, 7).

$$y - y_1 = m(x - x_1) \quad \text{OR} \quad y = mx + b$$

$$y - 7 = -\frac{5}{2}(x - (-4)) \quad 7 = -\frac{5}{2}(-4) + b$$

$$y - 7 = -\frac{5}{2}(x + 4) \quad 7 = 10 + b$$

$$y - 7 = -\frac{5}{2}x - 10 \quad -3 = b$$

$$\boxed{y = -\frac{5}{2}x - 3} \quad \boxed{y = -\frac{5}{2}x - 3}$$

15. Write the equation of the line which passes through the points (-6, 8) and (3, 2).

$$m = \frac{2 - 8}{3 - (-6)} = \frac{-6}{9} = -\frac{2}{3}$$

$x_1 \ y_1 \quad x_2 \ y_2$

$$y - y_1 = m(x - x_1) \quad \text{OR} \quad y = mx + b$$

$$y - 2 = -\frac{2}{3}(x - 3) \quad 2 = -\frac{2}{3}(3) + b$$

$$y - 2 = -\frac{2}{3}x + 2 \quad 2 = -2 + b$$

$$\boxed{y = -\frac{2}{3}x + 4} \quad \boxed{y = -\frac{2}{3}x + 4}$$

16. Write the equation of the line which passes through the points (0, 1) and (5, 3).

$$m = \frac{3 - 1}{5 - 0} = \frac{2}{5}$$

$x_1 \ y_1 \quad x_2 \ y_2$

$$y - y_1 = m(x - x_1) \quad \text{OR} \quad y = mx + b$$

$$y - 3 = \frac{2}{5}(x - 5) \quad 3 = \frac{2}{5}(5) + b$$

$$y - 3 = \frac{2}{5}x - 2 \quad 3 = 2 + b$$

$$\boxed{y = \frac{2}{5}x + 1} \quad \boxed{y = \frac{2}{5}x + 1}$$

Write a linear equation in slope-intercept form to model each situation.

17. You rent a bicycle for \$2 an hour with a base price of \$20. Let C represent the total cost and t represent the time.

$$C = 2t + 20$$

18. An auto body shop charges \$50 plus \$25 per hour. Let C represent the total cost and t represent the time.

$$C = 25t + 50$$

19. A candle is 6 inches tall and burns at a rate of $\frac{1}{2}$ inch per hour.

$H = \text{HEIGHT}$

$t = \text{TIME}$

$$H = \frac{1}{2}t + 6$$

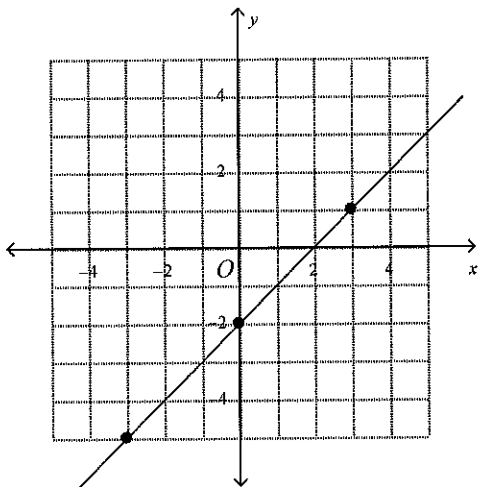
20. The temperature is 15° and is expected to fall 2° each hour during the night.

$T = \text{TEMP}$

$t = \text{TIME}$

$$T = -2t + 15$$

21. Which of the following is the linear equation for the line.



a. $y = x + 2$

b. $y = -x + 2$

c. $y = x - 2$

d. $y = -x - 2$

22. Which of the following is the linear equation for a line with a slope of 1 and a y-intercept of 0.

a. $y = 1$

b. $y = x$

c. $x = 1$

d. $y = 0$