Graph each equation.
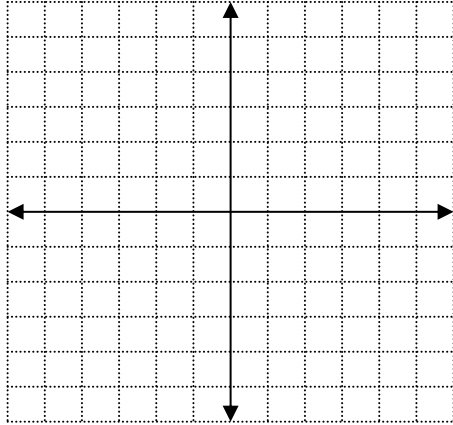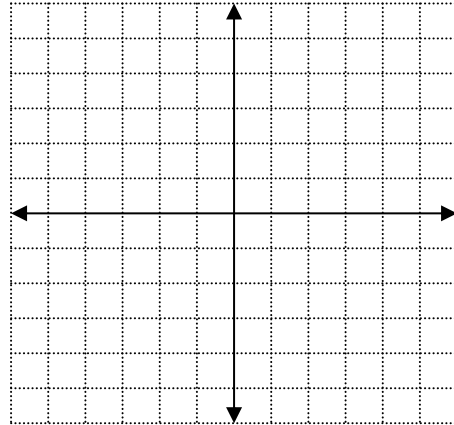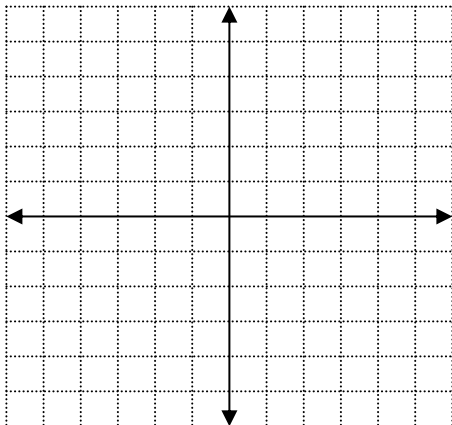
1. $y = 2x + 1$
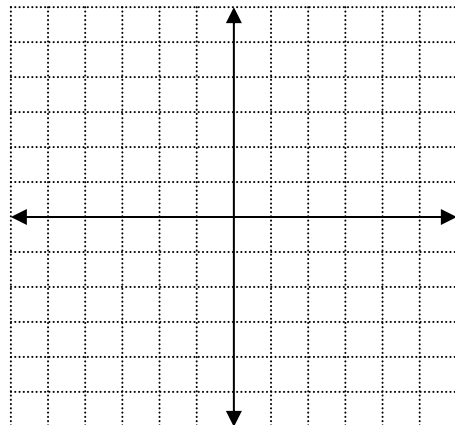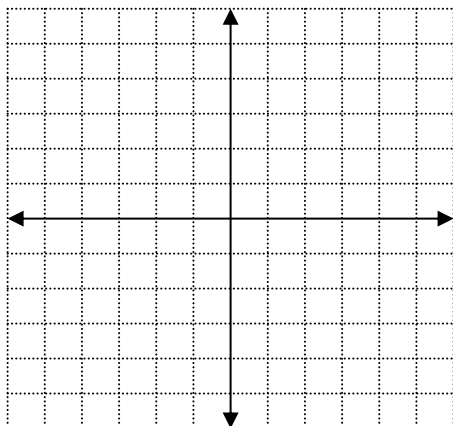
2. $6x + 4y = -12$
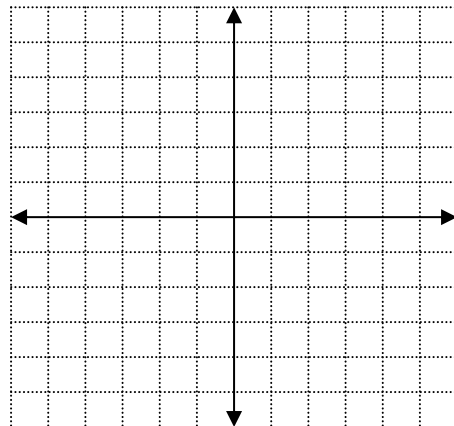
3. $y = -\dfrac{4}{3}x - 5$

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

5. $y = -3x$

6. $y = 5$

Write an equation of the line shown in each graph.

7.
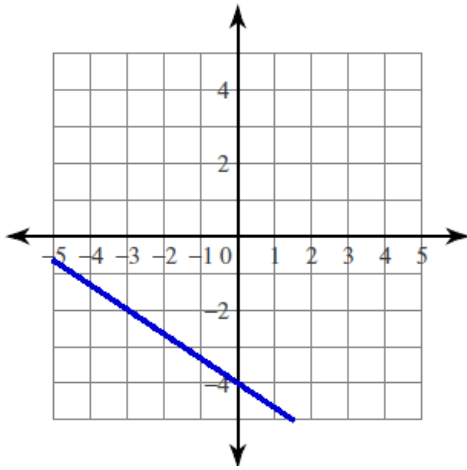
8.
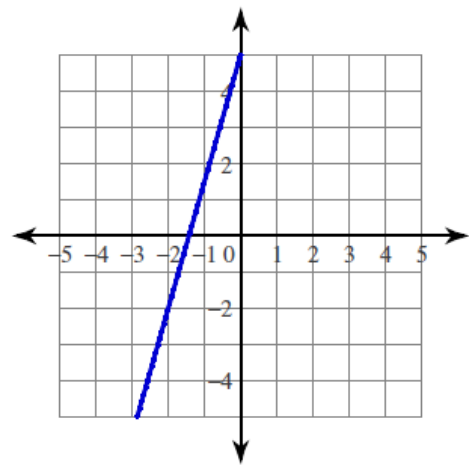
9.

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.

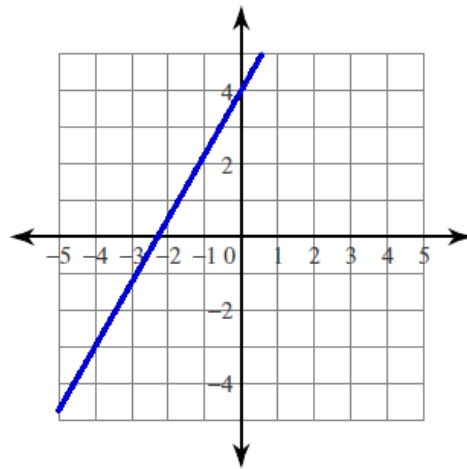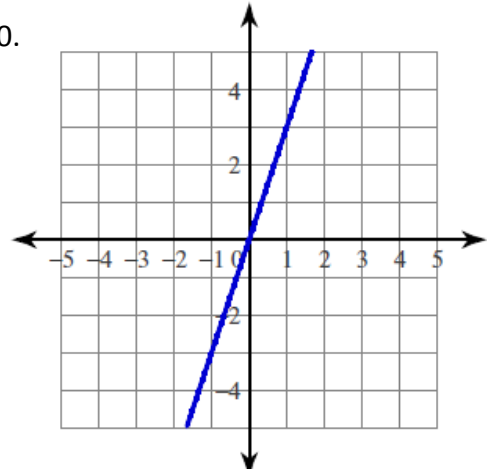12.   Write the equation of a line that has a slope of 5 and passes through the point (-4, -2).

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

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

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

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

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.

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

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

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

21.   Which of the following is the linear equation for the line.
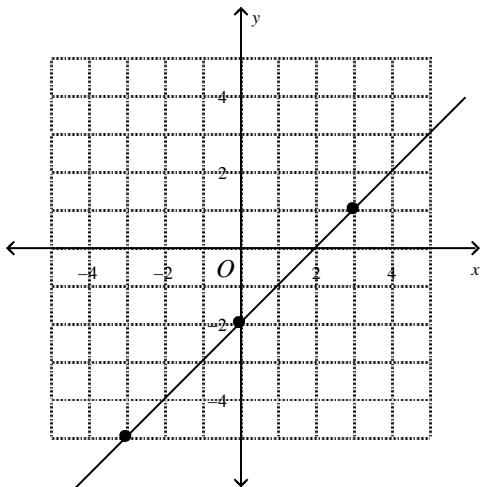
        a. $y = x + 2$ b. $y = -x + 2$ c. $y = x - 2$ d. $y = -x - 2$

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. $y = 0$