Lesson 6 Homework Practice

Write Linear Equations

Write an equation in point-slope form and slope-intercept form for each line.

1. passes through (−5, 6), slope = 3

$$y - 6 = 3(x + 5)$$
$$y = 3x + 21$$
$$3x - y = -21$$

2. passes through (6, −6), slope = 5

$$y + 6 = 5(x - 6)$$
$$y = 5x - 36$$
$$5x - y = 36$$

3. passes through (0, 1) and (2, 5)

$$y - 5 = 2(x - 2)$$
$$y = 2x + 1$$
$$2x - y = -1$$

4. passes through (−5, 9) and (1, 3)

$$y - 9 = -1(x + 5)$$
$$y = -x + 4$$
$$x + y = 4$$

5. passes through (1, −1) and (2, 0)
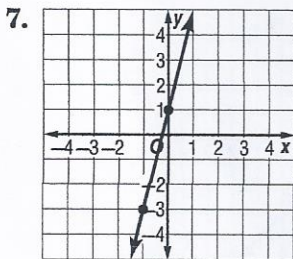
$$y + 1 = 1(x - 1)$$
$$y = x - 2$$
$$x - y = 2$$

6. passes through (−3, −5), slope = 2

$$y + 5 = 2(x + 3)$$
$$y = 2x + 1$$
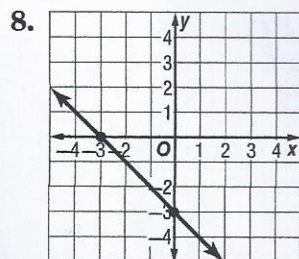$$2x - y = -1$$

Write the point-slope form of an equation for each line graphed.

7.

$$y - 1 = 4(x)$$
$$4x - y = -1$$
$$y = 4x + 1$$

8.

$$y = -1(x + 3)$$
$$y = -x - 3$$
$$x + y = -3$$

9. **TEMPERATURE** The table shows the temperature at certain hours. Assuming the temperature change is linear, write an equation in point-slope form to represent the temperature y at x hour.

Hour	Temperature (°F)
1	35
2	39

$$y - 35 = 4(x - 1)$$
$$y - 35 = 4x - 4$$
$$y = 4x + 31$$
$$4x - y = -31$$

10. **SPEED** After 2 hours, a car travels 70 miles. After 2.25 hours in the same trip, the car travels 78.75 miles. Write an equation in point-slope form to represent the distance y of the car after x hours.

$$y - 70 = 35(x - 2)$$
$$y - 70 = 35x - 70$$
$$y = 35x$$
$$35x - y = 0$$