

5-4

Practice

Form G

Point-Slope Form

Write an equation of the line in slope-intercept form through the given point and with the given slope m .

1. $(2, 1); m = 3$

2. $(-3, -5); m = -2$

3. $(-4, 11); m = \frac{3}{4}$

4. $(0, -3); m = -\frac{2}{3}$

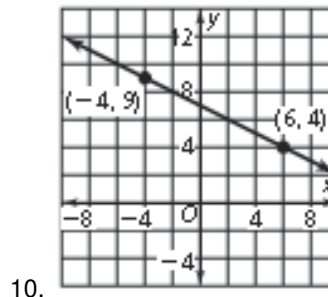
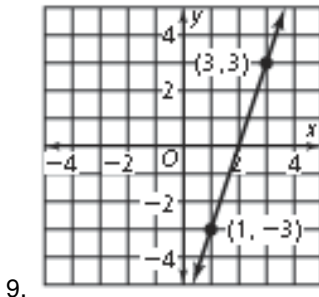
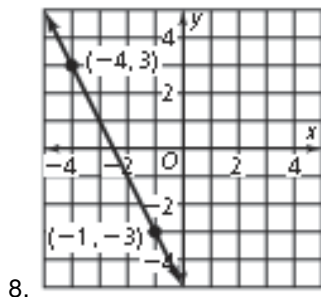
Graph each equation.

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

6. $y + 3 = -2(x + 1)$

7. $y + 1 = -\frac{3}{5}(x + 5)$

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



Write an equation in point-slope form of the line through the given points. Then write the equation in slope-intercept form.

11. $(4, 0), (-2, 1)$

12. $(-3, -2), (5, 3)$

13. $(-5, 1), (3, 4)$

14. **Open-Ended** Write an equation of a line that has a slope of $-\frac{1}{2}$ in each form.

a. point-slope form

b. slope-intercept form

5-4

Practice (continued)

Form G

Point-Slope Form

Model the data in each table with a linear equation in slope-intercept form.

What do the slope and y-intercept represent?

15.

Time Washing (hr)	Cars washed
3	18
5	30
6	36
8	48

16.

Time Flying (hr)	Distance from Airport (mi)
2	3600
4	2700
6	1800
8	900

Graph the line that passes through the given point and has the given slope m .

17. $(-3, -4); m = 6$

18. $(-2, 1), m = -3$

19. $(-4, -2); m = \frac{1}{2}$

20. **Writing** Describe what you know about the graph of a line represented by the equation $y - 3 = -\frac{2}{3}(x + 4)$.

21. **Writing** Describe how you would use the point-slope form to write the equation of a line that passes through the points $(-1, 4)$ and $(-3, -5)$ in slope-intercept form.

22. **Writing** Describe how linear data given in a table can help you write an equation of a line in slope-intercept form.

23. A sign says that 3 tickets cost \$22.50 and that 7 tickets cost \$52.50. Write an equation in point-slope form that represents the cost of tickets. What is the graph of the equation?