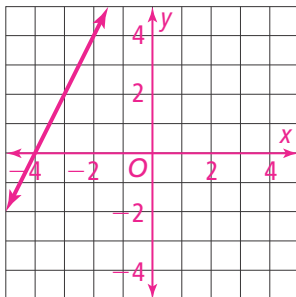## 2-2 Additional Practice
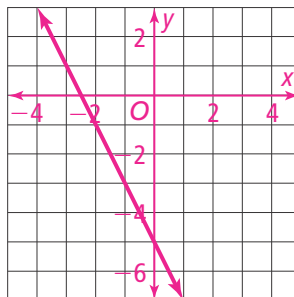
Point-Slope Form

Graph the line that represents each linear equation.
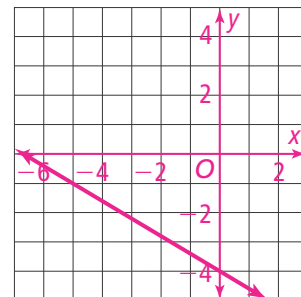
1. $y - 2 = 2(x + 3)$

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

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

Write the equation in point-slope form of the line that passes through the given point with the given slope.

4. $(2, 1)$; $m = 3$

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

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

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

6. $(4, -11)$; $m = \frac{3}{4}$

$y + 11 = \frac{3}{4}(x - 4)$

Write an equation in point-slope form of the line that passes through the given points.

7. $(4, 0)$ and $(-2, 1)$

$y = -\frac{1}{6}(x - 4)$,

$y - 1 = -\frac{1}{6}(x + 2)$

8. $(-3, -2)$ and $(5, 3)$

$y - 3 = \frac{5}{8}(x - 5)$,

$y + 2 = \frac{5}{8}(x + 3)$

9. $(-5, 1)$ and $(3, 4)$

$y - 4 = \frac{3}{8}(x - 3)$,

$y - 1 = \frac{3}{8}(x + 5)$

10. Explain why it does not matter which point you choose when writing the equation of the line in point-slope form, given two points.

Sample answer: A line that goes through both points has a constant slope, so choosing either point will result in an equivalent equation.

11. Members of the student council are conducting a fundraiser by selling school calendars. After selling 80 calendars, they had a loss of $360. After selling 200 calendars, they had a profit of $600. Write an equation that describes the relation between y, the profit or loss, and x, the number of calendars sold. How much profit did they make from selling each calendar? How much would they have lost if they had sold no calendars?

Sample answer: Slope-intercept form: $y = 8x - 1000$. The slope 8, represents the profit on each calendar, and the y-intercept, -1000, represents the loss if no calendars were sold.