Name _____ Date _____ Class _____

LESSON 11-2

Practice B

Slope-Intercept Form

Write the equation that describes each line in slope-intercept form.

1. slope = 4; y-intercept = –3

   $y =$ _____

2. slope = –2; y-intercept = 0

   $y =$ _____

3. slope = $-\frac{1}{3}$; y-intercept = 6

   $y =$ _____

4. slope = $\frac{2}{5}$, (10, 3) is on the line.

   Find the y-intercept $y = mx + b$

   ____ = (____) ____ + b

   ____ = ____ + b

   ____ = b

   Write the equation: $y =$ _____

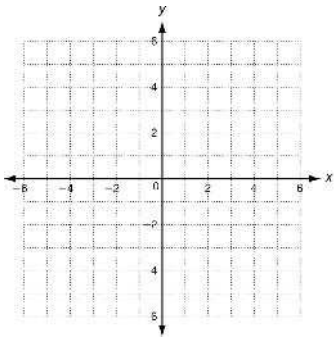
Write each equation in slope-intercept form. Then graph the line described by the equation.

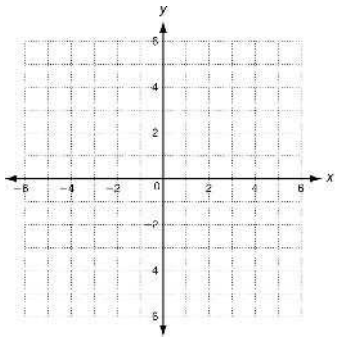
5. $y + x = 3$

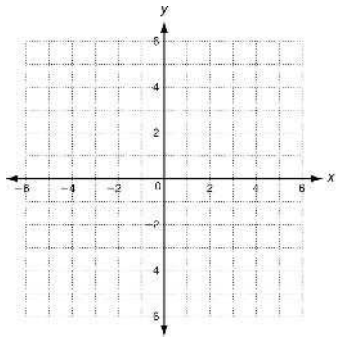
6. $y + 4 = \frac{4}{3}x$

7. $5x - 2y = 10$

_____ _____ _____







8. Daniel works as a volunteer in a homeless shelter. So far, he has worked 22 hours, and he plans to continue working 3 hours per week. His hours worked as a function of time is shown in the graph.

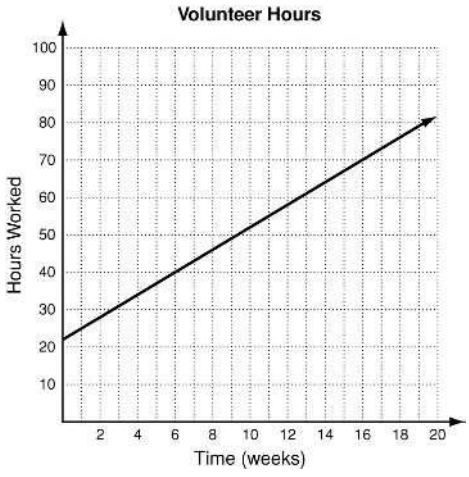
   a. Write an equation that represents the hours Daniel will work as a function of time. _____

   b. Identify the slope and y-intercept and describe their meanings. _____

   _____

   c. Find the number of hours worked after 16 weeks.

   _____



4. a. $Q = 500 + 30(t + 6) - 35t$, or $Q = 680 - 5t$

   b. after 136 minutes, the tank will be empty

Problem Solving

1. $y = 6.5x$
2. yes; it can be written as $y = 4x$.
3. no; it cannot be written in the form $y = kx$
4. 462 miles
5. A
6. H
7. C
8. G

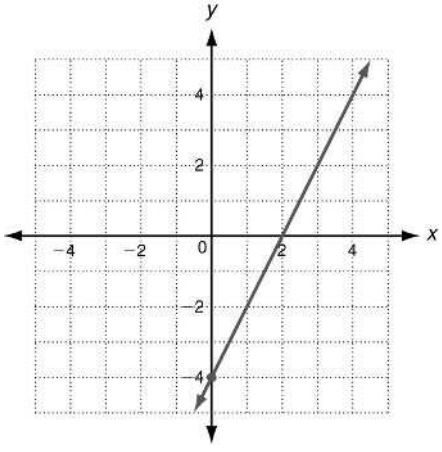
Reading Strategies

1. 8
2. $\frac{1}{3}$
3. –2.5
4. $y = 12 - x$; no
5. $y = \frac{3}{2}x$; yes
6. $\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$
7. yes
8. 12

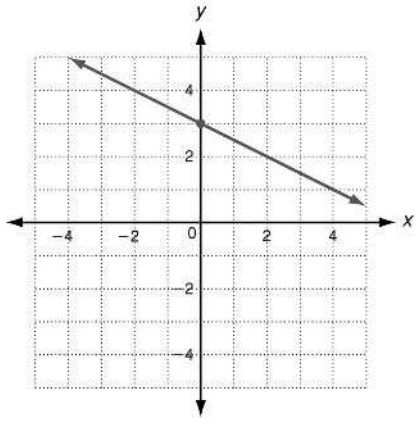
11-2 SLOPE-INTERCEPT FORM

Practice A

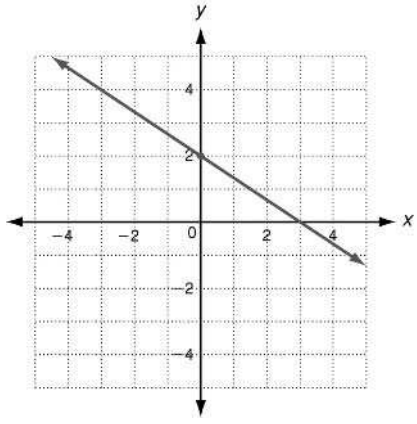
1. $\frac{2}{3}$; 2
2. –1; 8
3. 3; –6; 6; 6; 11; –2; 11
4. $y = 2x - 4$



5. $y = -\frac{1}{2}x + 3$



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



7. a. $y = 25x + 30$

   b. slope: 25; number of desks per classroom; y-int 30; number of spare desks

   c. 630

Practice B

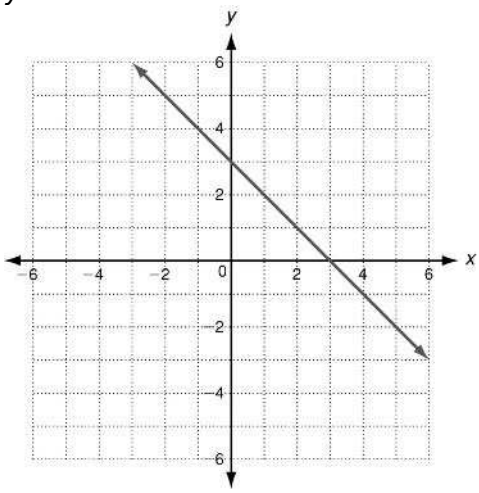
1. $y = 4x - 3$
2. $y = -2x$
3. $y = -\frac{1}{3}x + 6$
4. $3 = \left(\frac{2}{5}\right)10 + b$

   $3 = 4 + b$

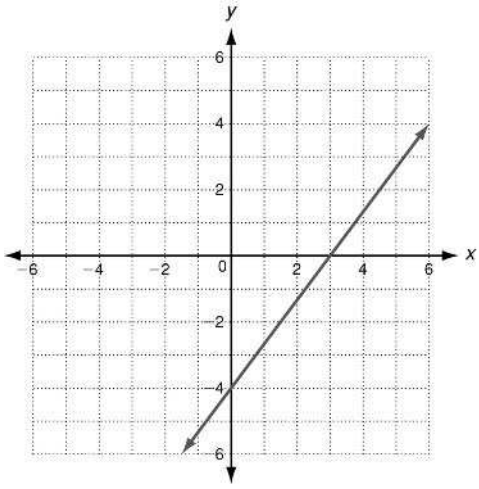
   $-1 = b$

   $y = \frac{2}{5}x - 1$

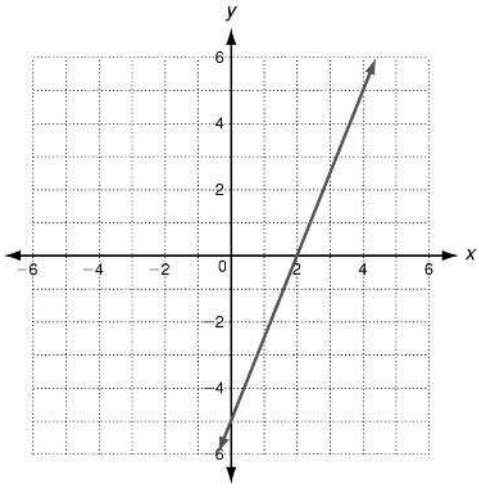
5. $y = -x + 3$



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



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



8. a. $y = 3x + 22$

   b. slope: 3; number of hours per week; *y*-int: 22; hours already worked

   c. 70 hours

Practice C

1. $y = -\frac{3}{2}x + 1$

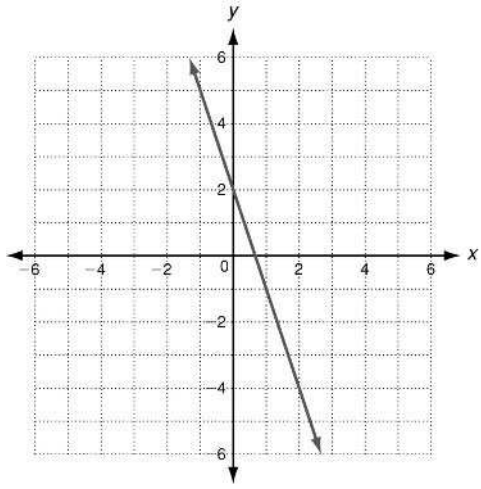
2. $y = -8$

3. $y = -3x + 8$

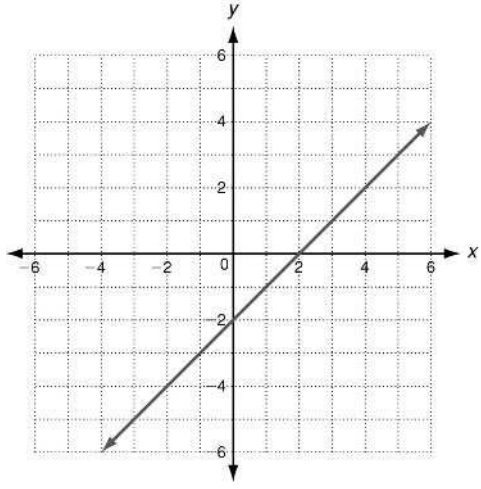
4. $y = \frac{3}{2}x - \frac{3}{2}$

5. $y = -3x + 2$

6. $y = -3x - 5$



7. $y = x - 2$



Name _____ Date _____ Class _____

LESSON 11-2

Practice C

Slope-Intercept Form

Write the equation that describes each line in slope-intercept form.

1. slope $= -\frac{3}{2}$; y-intercept $= 1$

2. slope $= -3$, $(-3, 4)$ is on the line.

3. slope $= 0$; y-intercept $= -8$

4. slope $= -\frac{4}{7}$; $(7, -8)$ is on the line.

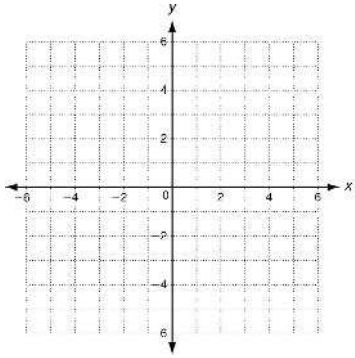
5. The line that passes through (1, 5) and (4, –4). (*Hint:* Find the slope first.) _____

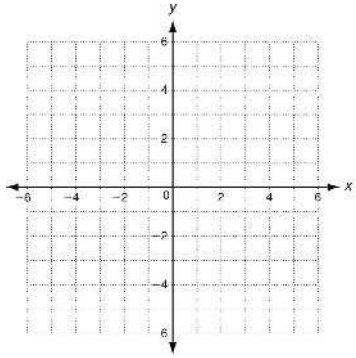
Write each equation in slope-intercept form. Then graph the line described by the equation.

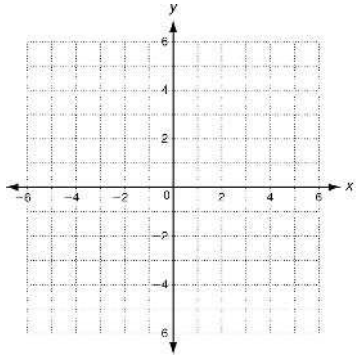
6. $y - 2 = -3x$

7. $x - y = 2$

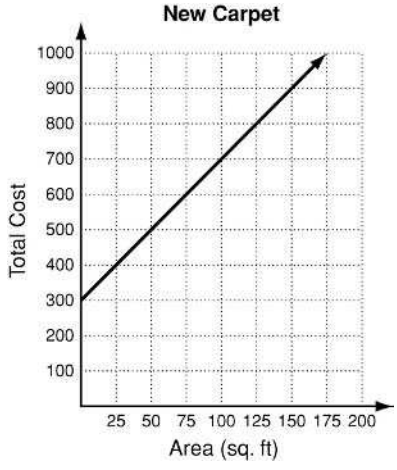
8. $-2y = 3x - 4$







9. The Johnsons are putting new carpet in their home. Installation is $300 and the carpeting costs $4 per square foot. The total price of the job as a function of area is shown in the graph.



   a. Write an equation that represents the total price as a function of area. _____

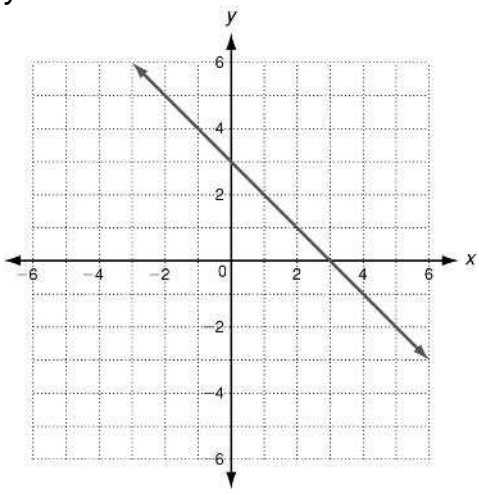
   b. Identify the slope and y-intercept and describe their meanings. _____

   _____

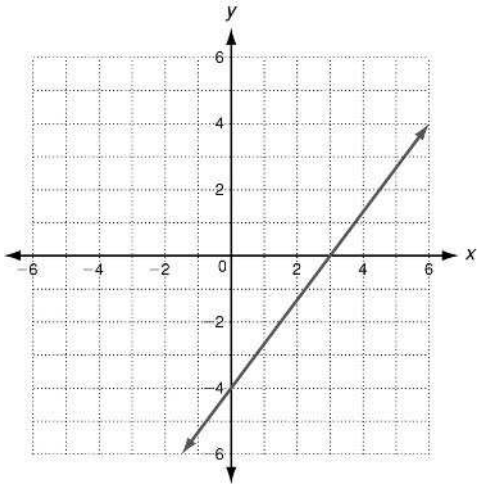
   c. Find the total cost if the area is 375 square feet.

   _____

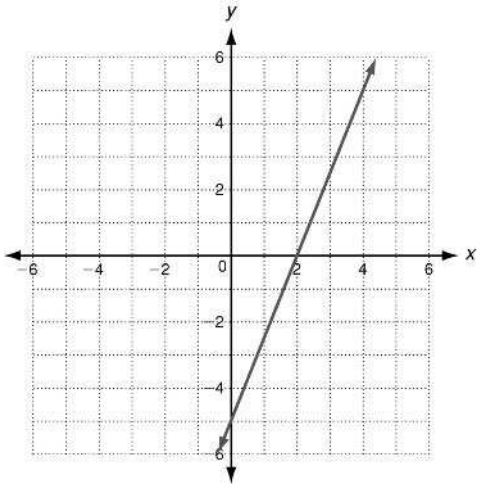
5. $y = -x + 3$



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



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



8. a. $y = 3x + 22$

   b. slope: 3; number of hours per week; y-int: 22; hours already worked

   c. 70 hours

Practice C

1. $y = -\frac{3}{2}x + 1$

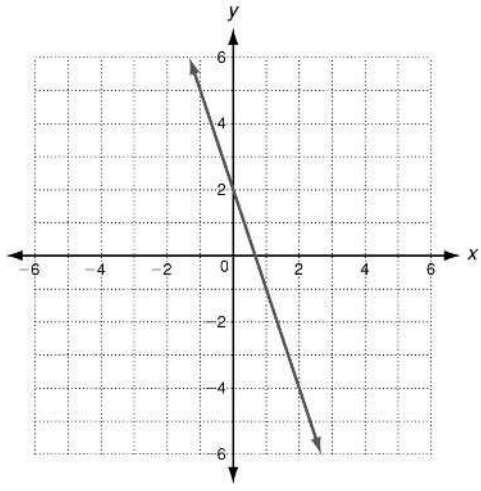
2. $y = -8$

3. $y = -3x + 8$

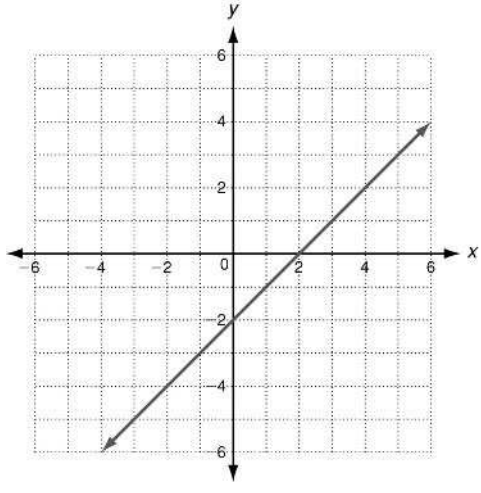
4. $y = \frac{3}{2}x - \frac{3}{2}$

5. $y = -3x + 2$

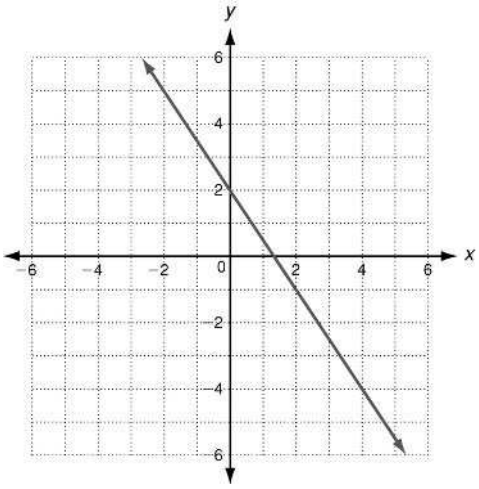
6. $y = -3x - 5$



7. $y = x - 2$



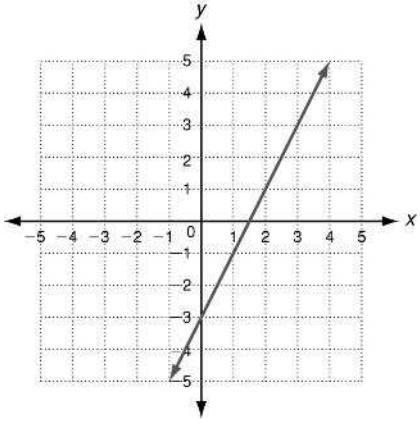
8. $y = -\frac{3}{2}x + 2$



9. a. $y = 4x + 300$
   b. slope: 4; cost per square foot; y-int: 300; cost of installation
   c. \$1800

Review for Mastery

1. $y = \frac{1}{4}x + 3$
2. $y = -5x$
3. $y = 7x - 2$
4. $y = 3x - 6$
5. $y = \frac{1}{2}x + 9$
6. $y = -x + 3$
7. $y = -5x + 30$
8. $y = x - 7$
9. $y = \frac{4}{3}x + 4$
10. $y = 2x - 3$

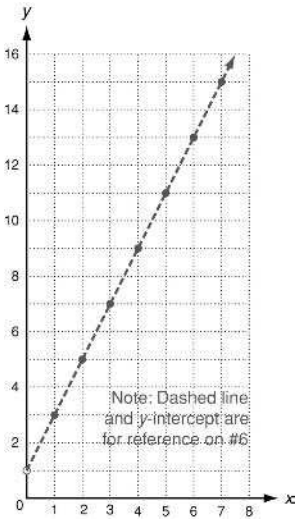


Challenge

1. $a_1 = 3$
2. $d = 2$
3. $a_n = 3 + (n - 1)(2)$

4.

x	1	2	3	4	5	6	7
y	3	5	7	9	11	13	15

5. 

   No, because the domain of the sequence is restricted to natural numbers: {1, 2, 3, 4, …}.

6. $y = 2x + 1$
7. a. The slope is the same as the common difference ($m = d = 2$).
   b. The y-intercept is the same as the first term less the common difference ($b = a_1 - d = 1$).
8. $y = -3x + 8$; $m = d = -3$ and $b = a_1 - d = 5 - (-3) = 8$
9. $a_n = 4 + (n - 1)(5)$; $d = m = 5$ and $a_1 = b + d = -1 + 5 = 4$

Problem Solving

1. $y = 10x + 300$
2. slope: 10, rate of the change of the cost: \$10 per student; y-int: 300, the initial fee (the cost for 0 students)
3. \$800
4. C
5. J
6. A
7. H