Name _____ Date _____

LESSON 3.5

Challenge Practice

For use with the lesson "Graph Using Slope-Intercept Form"

In Exercises 1–4, find the slope and the *y*-intercept of the graph of the given equation. Assume *a*, *b*, and *c* are nonzero real numbers.

1. $ax + by = c$
2. $ax + 2ay = c$
3. $a + ax + by = 0$
4. $ay + 2ax + c = -1$

In Exercises 5–8, use the fact that the *x*-intercept to $ax + by = ab$ is $x = b$, and the *y*-intercept to $ax + by = ab$ is $y = a$ to find the *x*- and *y*-intercepts of the equations without computation.

5. $3x + 6y = 18$
6. $-2x - 5y = 10$
7. $3x - 7y = -21$
8. $x - 3y = -3$

In Exercises 9–12, use the fact that the *x*-intercept to $ax + by = -ab$ is $x = -b$, and the *y*-intercept to $ax + by = ab$ is $y = -a$ to find the *x*- and *y*-intercepts of the equations without computation.

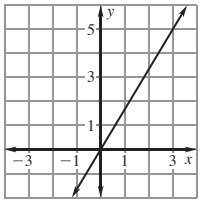
9. $2x + 3y = -6$
10. $x - 7y = 7$
11. $3x + ay = -3a$
12. $2ax + 12y = -24a$

Lesson 3.5 Graph Using Slope-Intercept Form, continued

4. Slope: $-\frac{3}{2}$; y-intercept: 4 **5.** Slope: $\frac{4}{5}$; y-intercept: -3 **6.** Slope: $\frac{4}{3}$; y-intercept: 3

7. Slope: $\frac{4}{5}$; y-intercept: $-\frac{7}{5}$ **8.** Slope: $\frac{4}{9}$; y-intercept: -2 **9.** Slope: $\frac{3}{5}$; y-intercept: $\frac{12}{5}$

10.



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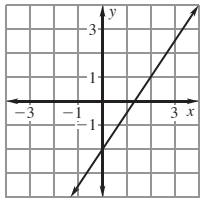

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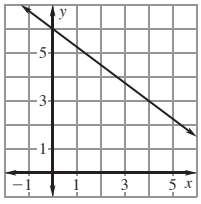

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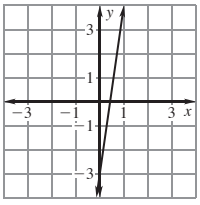

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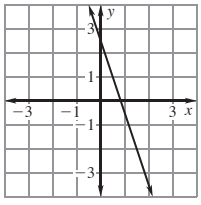

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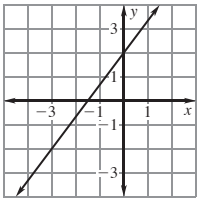

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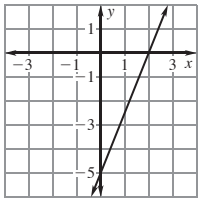

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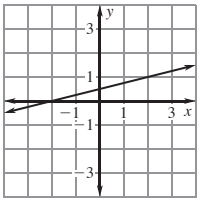

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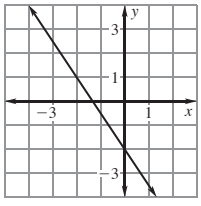
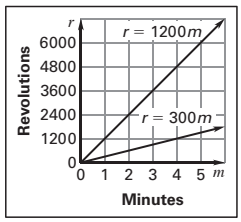


19. line through $(-1, -3)$ and $(0, 2)$ and line through $(1, 2)$ and $(0, -3)$ **20.** line through $(-1, 3)$ and $(0, -3)$ and line through $(0, 2)$ and $(1, -4)$

21. not parallel **22.** parallel **23.** $\frac{7}{2}$ **24.** -38

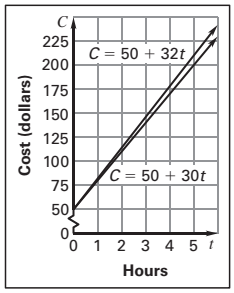
25. 9 **26.** -2

27. a.



The r-intercepts indicate the number of revolutions per minute when the drill isn't on.
b. 2700 revolutions

28. a. and **b.**



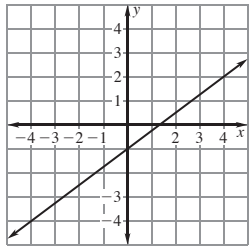
c. \$6; Because the cost increased by \$2 per hour and the job took 3 hours, the difference in cost is $2(3) = 6$.

Study Guide

1. $m = -3, b = 7$ **2.** $m = 3, b = -2$

3. $m = -\frac{1}{6}; b = -3$

4.



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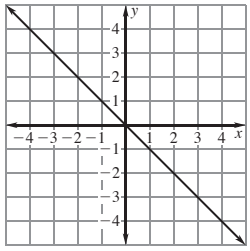

6. $a \| b$

Problem Solving Workshop: Using Alternative Methods

1. \$15 **2.** \$10; \$10; The difference is the same no matter how many months you would go to the gym.

Challenge Practice

1. $m = -\frac{a}{b}; b = \frac{c}{b}$ **2.** $m = -\frac{1}{2}; b = \frac{c}{2a}$

3. $m = -\frac{a}{b}; b = -\frac{a}{b}$ **4.** $m = -2; b = \frac{-c - 1}{a}$

5. x-intercept: 6; y-intercept: 3 **6.** x-intercept: -5; y-intercept: -2 **7.** x-intercept: -7; y-intercept: 3 **8.** x-intercept: -3; y-intercept: 1

9. x-intercept: -3; y-intercept: -2

10. x-intercept: 7; y-intercept: -1

11. x-intercept: $-a$; y-intercept: -3

12. x-intercept: -12; y-intercept: $-2a$