

LESSON
4.4**Practice B**

For use with the lesson "Write Linear Equations in Standard Form"

Write two equations in standard form that are equivalent to the given equation.

1. $6x + 24y = 18$
2. $8x - 14y = 2$
3. $6x + y = 1$
4. $-4x - 2y = 16$
5. $2x + 3y = 11$
6. $-9x + 4y = 5$

Write an equation in standard form of the line that passes through the given point and has the given slope m .

7. $(4, 3), m = 7$
8. $(5, -1), m = 2$
9. $(-2, 6), m = 1$
10. $(-7, 8), m = -3$
11. $(9, -10), m = -4$
12. $(-15, -4), m = \frac{1}{2}$

Write an equation in standard form of the line that passes through the given points.

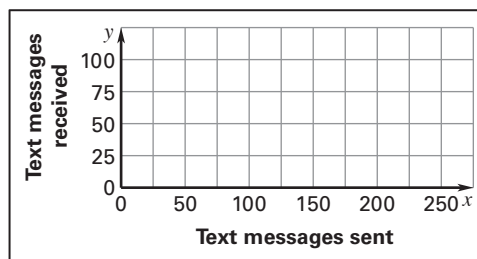
13. $(2, 6), (3, 8)$
14. $(-1, 2), (5, 4)$
15. $(7, -3), (4, 1)$
16. $(3, -8), (5, -9)$
17. $(-5, 6), (2, -3)$
18. $(-3, -1), (6, -8)$

Write equations of the horizontal and the vertical lines that pass through the given point.

19. $(8, 3)$
20. $(-2, 6)$
21. $(5, -5)$

22. Text Messaging Your cell phone plan charges you \$.02 to send a text message and \$.07 to receive a text message. You plan to spend no more than \$5 a month on text messaging.

- a. Write an equation in standard form that models the possible combinations of sent text messages and received text messages.
- b. Graph the equation from part (a). *Explain* what the intercepts of the graph mean in this situation.
- c. List three other possible combinations of the number of messages you can send and receive.



23. Potting Soil Mix You are making 24 pounds of your own potting soil mix of sphagnum peat moss and coarse sand. You buy the peat moss in bags that weigh approximately 2 pounds.

- a. The last time you made 24 pounds of potting soil, you used 9 bags of sphagnum peat moss and 4 bags of coarse sand. Use this information to find the number of pounds in a bag of coarse sand.
- b. Write an equation in standard form that models the possible combinations of bags of sphagnum peat moss and coarse sand you can use.
- c. List three possible combinations of whole bags of sphagnum peat moss and coarse sand you can use to make the potting soil.

Lesson 4.3 Write Linear Equations in Point-Slope Form, continued

6. $y - 2 = -\frac{3}{p}(x - 2p)$

7. $y + 4 = \frac{1+p}{p}(x + 2p)$

8. $y + 4p = \frac{-7p+2}{-2p+2}(x + p - 3)$

9. $y - 20 = 30(x - 0)$ 10. 60 problems

11. 3 h 20 min

Lesson 4.4 Write Linear Equations in Standard Form

Teaching Guide

1–2. Check tables.

3. The tables are equivalent, therefore the equations are equivalent.

4. Check tables. The tables are equivalent, therefore the equations are equivalent.

Investigating Algebra Activity

1–3. Answers will vary.

Practice Level A

1. slope-intercept 2. point-slope 3. standard

4. Answers will vary. 5. Answers will vary.

6. Answers will vary. 7. $x - y = 6$ 8. $2x + y = 3$ 9. $x - 2y = -8$ 10. $3x - y = 2$ 11. $2x + y = 5$ 12. $x - 2y = 2$ 13. $y = 1, x = 2$ 14. $y = 7, x = 3$ 15. $y = 4, x = -1$ 16. a. $3.8x + 5y = 80$ b. about 1.3 lbc. about 2.3 lb 17. $0.1x + 0.13y = 10$; Answers will vary.

Practice Level B

1. Answers will vary. 2. Answers will vary.

3. Answers will vary. 4. Answers will vary.

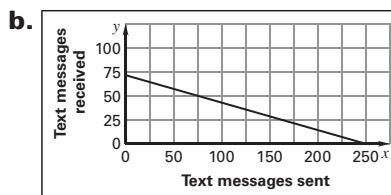
5. Answers will vary. 6. Answers will vary.

7. $7x - y = 25$ 8. $2x - y = 11$ 9. $x - y = -8$ 10. $3x + y = -13$ 11. $4x + y = 26$ 12. $x - 2y = -7$ 13. $2x - y = -2$ 14. $x - 3y = -7$ 15. $4x + 3y = 19$ 16. $x + 2y = -13$ 17. $9x + 7y = -3$ 18. $7x + 9y = -30$

19. $y = 3, x = 8$ 20. $y = 6, x = -2$

21. $y = -5, x = 5$

22. a. $0.02x + 0.07y = 5$

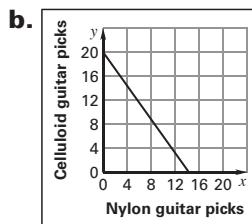


x -intercept: the number of messages you can send when no messages are received; y -intercept: the number of messages you can receive when no messages are sent c. Answers will vary.

23. a. 1.5 lb b. $2x + 1.5y = 24$ c. Answers will vary.

Practice Level C

1. Answers will vary. 2. Answers will vary.

3. Answers will vary. 4. $3x + 4y = -4$ 5. $2x - 5y = 55$ 6. $x - 8y = 17$ 7. $x + 2y = 3$ 8. $11x - 6y = -58$ 9. $3x + 7y = 19$ 10. $4x + 5y = -43$ 11. $12x + 13y = 92$ 12. $y = 6$ 13. $y = -3, x = -9$ 14. $y = 7, x = -4$ 15. $y = -4, x = 10$ 16. 2 17. -3 18. -419. a. $0.35x + 0.25y = 5$ 

x -intercept: number of nylon picks you can buy if you don't buy any celluloid picks; y -intercept: number of celluloid picks you can buy if you don't buy any nylon picks c. Answers will vary.

20. a. $x + y = 6$ b. 2.16 gal c. 0.16 gal

d. 20.48 fl oz

Study Guide

1. Sample answer: $3x + y = 4, 12x + 4y = 16$ 2. $\frac{1}{2}x + y = 6$ 3. $-4x + y = 11$ 4. $y = -2,$ $x = 7$ 5. $y = 5, x = -1$ 6. $-2x + 5y = 7$ 7. $4x + 3y = 6$