

LESSON
4.4

Practice C

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. $9x - 36y = 27$

2. $-7x + 6y = -13$

3. $10x - 6y = -22$

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

4. $(-8, 5), m = -\frac{3}{4}$

5. $(0, -11), m = \frac{2}{5}$

6. $(-7, -3), m = \frac{1}{8}$

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

7. $(5, -1), (9, -3)$

8. $(-2, 6), (-8, -5)$

9. $(-10, 7), (-3, 4)$

10. $(-7, -3), (-2, -7)$

11. $(12, -4), (-1, 8)$

12. $(-13, 6), (8, 6)$

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

13. $(-9, -3)$

14. $(-4, 7)$

15. $(10, -4)$

Find the missing coefficient in the equation of the line that passes through the given point.

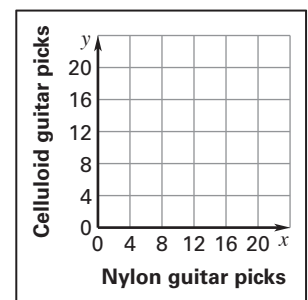
16. $Ax + 4y = 2, (3, -1)$

17. $-5x + By = -1, (-4, 7)$

18. $Ax - 6y = 20, (-8, 2)$

19. Guitar Picks You have \$5 to spend on guitar picks. You want to buy some nylon picks for \$.35 each and celluloid picks for \$.25 each.

- Write an equation in standard form that models the possible combinations of nylon and celluloid picks you can buy.
- Graph the equation from part (a). *Explain* what the intercepts of the graph mean in this situation.
- List three possible pick combinations.



20. Marine Fuel Marine fuel is a combination of gasoline and motor oil. The standard gasoline and oil mixture is about 98% gasoline and about 2% motor oil. The “break-in” mixture for a new engine is about 96% gasoline and about 4% motor oil.

- Write an equation in standard form that models the possible combinations of each kind of mixture you can prepare using 6 gallons of gasoline.
- If you prepare 4 gallons of the “break-in” mixture, how much gasoline will you have for the standard mixture?
- How much oil do you need to prepare 4 gallons of the “break-in” mixture?
- Oil is typically sold in fluid ounces. Use the fact that 128 fluid ounces = 1 gallon to convert your answer to part (c) to fluid ounces.

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.

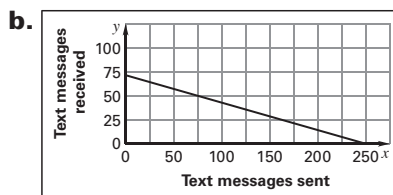
5. Answers will vary. 6. Answers will vary.

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. $0.02x + 0.07y = 5$

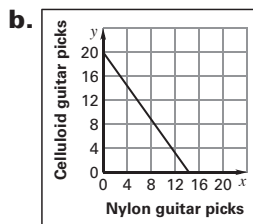


x -intercept: the number of messages you can send when no messages are received; y -intercept: the number of messages you can receive when no messages are sent c. Answers will vary.

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. $4x + 3y = 6$