

**LESSON**  
**11-4**

# Solving Linear Systems by Multiplying First

## Practice and Problem Solving: A/B

Solve each system of equations. Check your answer.

1. 
$$\begin{cases} -3x - 4y = -2 \\ 6x + 4y = 3 \end{cases}$$

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2. 
$$\begin{cases} 2x - 2y = 14 \\ x + 4y = -13 \end{cases}$$

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3. 
$$\begin{cases} y - x = 17 \\ 2y + 3x = -11 \end{cases}$$

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4. 
$$\begin{cases} x + 6y = 1 \\ 2x - 3y = 32 \end{cases}$$

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5. 
$$\begin{cases} 3x + y = -15 \\ 2x - 3y = 23 \end{cases}$$

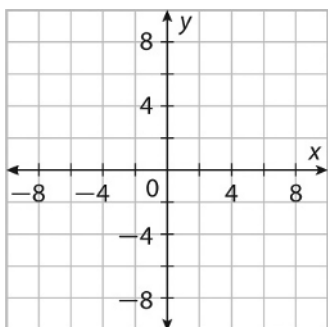
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6. 
$$\begin{cases} 5x - 2y = -48 \\ 2x + 3y = -23 \end{cases}$$

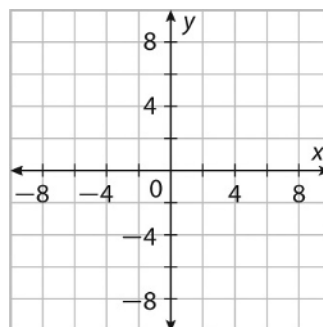
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Solve each system of equations. Check your answer by graphing.

7. 
$$\begin{cases} 4x - 3y = -9 \\ 5x - y = 8 \end{cases}$$



8. 
$$\begin{cases} 3x - 3y = -1 \\ 12x - 2y = 16 \end{cases}$$



**Solve.**

9. Ten bagels and four muffins cost \$13. Five bagels and eight muffins cost \$14. What are the prices of a bagel and a muffin?

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10. John can service a television and a cable box in one hour. It took him four hours yesterday to service two televisions and ten cable boxes. How many minutes does John need to service a cable box?

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### Success for English Learners

1. You have to substitute the value you found for  $m$  into one of the equations and find  $T$ .
2. 5 months

### LESSON 11-3

#### Practice and Problem Solving: A/B

1. (5, -1)
2. (2, -12)
3. (-2, 1)
4. (-12, 4)
5. (-3, 3)
6. infinitely many solutions
7. (0, -1)
8. (8, -7.2)
9. initial amount: \$30; hourly rate: \$60
10. \$9

#### Practice and Problem Solving: C

1. (5, 0.5)
2. (5, -8)
3. (-1, 1)
4. (75, -25)
5. 12 adults
6. Pearl solved an inconsistent system of equations. The system has no solution. The graphs of the two equations are parallel lines.

7.  $ax + by = c$

$$\underline{dx - by = e}$$

$$ax + dx = c + e$$

$$(a + d)x = c + e$$

$$x = \frac{c + e}{a + d}$$

#### Practice and Problem Solving: Modified

1. substitution
2. addition/subtraction
3. substitution
4. (12, 4)
5. (0, 1)

6. (3, -5)
7. (1, 2)
8. (2, 5)
9. no solution
10. (47, 23)
11.  $y + x = 30$  and  $y + 5x = 42$ .; (3, 27)

#### Reading Strategies

1. No, it is not the solution.
2. Yes, it is the solution.

### Success for English Learners

1. When the variables with the same coefficient have opposite signs, add. When they are exactly the same, subtract.

### LESSON 11-4

#### Practice and Problem Solving: A/B

1.  $\left(\frac{1}{3}, \frac{1}{4}\right)$

2. (3, -4)

3. (-9, 8)

4. (13, -2)

5. (-2, -9)

6. (-10, -1)

7. (3, 7)

8.  $\left(\frac{5}{3}, 2\right)$

9. Bagel: \$0.80; muffin: \$1.25

10. 15 minutes

#### Practice and Problem Solving: C

1. (-5, 6)

2. (42, -36)

3. (3, -1)

4. (-10, -3.25)

5. 300 dimes and 120 quarters

6. \$5

7. 300 10-pound bags and 120 50-pound bags

8. 727