CHAPTER 6: SYSTEMS OF EQUATIONS REVIEW SHEET ANSWER KEY

Graph each system of equations. Determine whether the system has *no* solution, *one* solution, or *infinitely many* solutions. If the system has one solution, name it.

1. $\frac{1}{3}y = x$
   $y + x + 4 = 0$

2. $x + 3y = 3$
   $3y = -x + 9$

Use substitution to solve each system of equations. If the system does not have exactly one solution, state whether it has *no* solution or *infinitely many* solutions.

3. $y = 2x - 7$
   $3x - 4y = 8$

4. $4y - 3x = 5$
   $\frac{3}{4}x = y - 4$

5. $x - 2y = -3$
   $y = 3x - 1$

6. $y = -x + 3$
   $x + y = -1$

Use elimination to solve each system of equations.

7. $6x - 7y = 21$
   $3x + 7y = 6$

8. $0.2x + 0.5y = 0.7$
   $-0.2x - 0.6y = -1.4$

9. $2x + \frac{2}{3}y = -8$
   $\frac{1}{2}x - \frac{1}{3}y = 1$

10. $\frac{1}{2}x + \frac{2}{5}y = -10$
    $3x + 6y = -6$

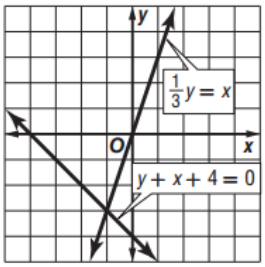
Determine the best method to solve each system of equations. Then solve the system.

11. $x + y = 147$
    $25x + 10y = 2415$

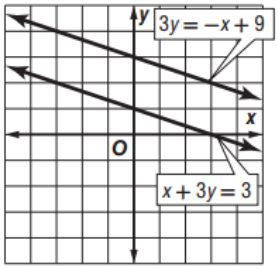
12. $7y = 2\frac{1}{2} - 2x$
    $5x = 3y - 4$

13. Three times one number added to five times a second number is 68. Three times the second number minus four times the first number is 6. What are the two numbers?

14. A trail mix that costs \$2.45 per pound is mixed with a trail mix that costs \$2.30 per pound. How much of each type of trail mix must be used to have 30 pounds of a trail mix that costs \$2.35 per pound?

1. 

one solution; (−1, −3)



2. no solution
3. (4, 1)
4. no solution
5. (1, 2)
6. no solution
7. $\left(3, -\frac{3}{7}\right)$
8. (−14, 7)
9. (−2, −6)
10. (−32, 15)
11. substitution; (63, 84)
    elimination (×);
12. $\left(-\frac{1}{2}, \frac{1}{2}\right)$
13. 6, 10
14. 10 lb of \$2.45 mix;
    20 lb of \$2.30 mix