

# 6-3 Practice

## Solving Systems Using Elimination

Form K

Solve each system using elimination.

1.  $x + y = 7$   
 $x - y = 3$

2.  $2x + y = -5$   
 $3x - y = -10$

3.  $x + 3y = 4$   
 $-x + 2y = -4$

4.  $2x + 3y = -12$   
 $-2x + y = 4$

5.  $x - 3y = 27$   
 $3x - 3y = 39$

6.  $4x + 2y = 2$   
 $3x + y = 4$

7. **Writing** Solve the system  $\begin{matrix} 3x + y = 5 \\ -2x - y = -5 \end{matrix}$  using elimination. Explain how you can check the solution both algebraically and graphically.

8. **Open-Ended** Write a system of equations that can be solved using elimination without multiplication.

9. There are 72 members of the show choir. There are 6 more boys than girls in the choir.
- Write the model of a system for the above situation.
  - Do you need to multiply any of the equations by a constant before solving by elimination? Explain.

10. **Writing** Explain the process you use to determine which variable is the best variable to eliminate in a system of two equations in two variables.

## 6-3 Practice (continued)

### Solving Systems Using Elimination

11. The sum of two numbers is 19, and their difference is 55. What are the two numbers?
12. Jocelyn has \$1.95 in her pocket made up of 27 nickels and dimes. How many of each type of coin does she have?

**Solve each system using elimination. Tell whether the system has *one solution*, *infinitely many solutions*, or *no solution*.**

13. 
$$\begin{aligned}x - 2y &= -1 \\ 2x + y &= 4\end{aligned}$$

14. 
$$\begin{aligned}x + 3y &= 4 \\ 2x - 6y &= 8\end{aligned}$$

15. 
$$\begin{aligned}y &= -\frac{1}{2}x - 3 \\ x + 2y &= -6\end{aligned}$$

16. 
$$\begin{aligned}6x - 3y &= -18 \\ -2x + 4y &= 18\end{aligned}$$

17. 
$$\begin{aligned}2x - 8y &= -16 \\ y &= \frac{1}{4}x - 2\end{aligned}$$

18. 
$$\begin{aligned}3x - y &= -1 \\ y &= 3x - 5\end{aligned}$$