

## 5.2 Practice A

In Exercises 1–3, tell which equation you would choose to solve for one of the variables. Explain.

1.  $5x + y = 2$   
 $3x + y = 7$

2.  $2x - 3y = 6$   
 $x + 7y = 2$

3.  $4x - y = -3$   
 $3x + 3y = 7$

In Exercises 4–9, solve the system of linear equations by substitution. Check your solution.

4.  $y = 10 - 2x$   
 $x = y - 4$

5.  $4y + 1 = x$   
 $x = 5y$

6.  $y = 11 + 4x$   
 $3x + 2y = 0$

7.  $5y = 10$   
 $x - 3y = 4$

8.  $x + y = -2$   
 $2x - y = 14$

9.  $-x + y = 2$   
 $3x - 5y = -4$

10. Describe and correct the error in solving for one of the variables in the linear system  $-x + 4y = -9$  and  $3x - 2y = 7$ .

$\times$	<b>Step 1</b>	$-x + 4y = -9$ $-x = -4y - 9$
	<b>Step 2</b>	$3(-4y - 9) - 2y = 7$ $-12y - 27 - 2y = 7$ $-14y = 34$ $y = -\frac{17}{7}$

In Exercises 11–13, write a system of linear equations that has the ordered pair as its solution.

11.  $(1, 4)$

12.  $(9, -3)$

13.  $(-2, -1)$

14. A biology test is worth 100 points and has 36 questions.

- a. Multiple-choice questions are worth 2 points each and essay questions are worth 6 points each. How many questions of each type are on the test?
- b. Your friend says that it is possible for the multiple-choice questions to be worth 4 points each. Is your friend correct? Explain.

15. Find the values of  $a$  and  $b$  so that the solution of the linear system is  $(5, 2)$ .

$ax + by = 23$  Equation 1

$ax - by = 7$  Equation 2