

7.2 EXERCISES

HOMEWORK KEY

◆ = MULTIPLE CHOICE PRACTICE
Exs. 21, 23, 29, and 37–39

○ = HINTS AND HOMEWORK HELP
for Exs. 5, 15, and 31 at classzone.com

SKILLS • PROBLEM SOLVING • REASONING

1. **VOCABULARY** Copy and complete: A(n) consists of two or more linear equations in the same variables.

2. **WRITING** If you are solving the linear system shown using the substitution method, which equation would you solve for which variable? *Explain.*

$$2x - 3y = 24 \quad \text{Equation 1}$$

$$2x + y = 8 \quad \text{Equation 2}$$

EXAMPLE 1

on p. 383
for Exs. 3–11

SOLVING LINEAR SYSTEMS Solve the linear system using the substitution method.

3. $x = 17 - 4y$
 $y = x - 2$

6. $4x - 7y = 10$
 $y = x - 7$

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

12. $2x = 12$
 $x - 5y = -29$

15. $5x + 2y = 9$
 $x + y = -3$

18. $11x - 7y = -14$
 $x - 2y = -4$

4. $y = 2x - 1$
 $2x + y = 3$

7. $x = 16 - 4y$
 $3x + 4y = 8$

10. $x = 7 - 10y$
 $10x - 4y = 18$

13. $2x - y = 23$
 $x - 9 = -1$

16. $2x + y = 9$
 $4x - y = -15$

19. $20x - 30y = -50$
 $x + 2y = 1$

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

8. $-5x + 3y = 51$
 $y = 10x - 8$

11. $3x - 2y = -1$
 $y = -x - 7$

14. $x + y = 0$
 $x - 2y = 6$

17. $5x + 4y = 32$
 $9x - y = 33$

20. $6x + y = 4$
 $x - 4y = 19$

21. ◆ **MULTIPLE CHOICE** What is the solution of the linear system $4x - y = 17$ and $-9x + 8y = 2$?

(A) (6, 7)

(B) (7, 6)

(C) (7, 11)

(D) (11, 7)

22. **ERROR ANALYSIS** Describe and correct the error in solving the linear system $4x + 2y = 6$ and $3x + y = 9$.

Step 1

$$\begin{aligned} 3x + y &= 9 \\ y &= 9 - 3x \end{aligned}$$

Step 2

$$\begin{aligned} 4x + 2(9 - 3x) &= 6 \\ 4x + 18 - 6x &= 6 \\ -2x &= -12 \\ x &= 6 \end{aligned}$$

Step 3

$$\begin{aligned} y &= 9 - 3x \\ 6 &= 9 - 3x \\ -3 &= -3x \\ 1 &= x \end{aligned}$$

The solution
is (6, 1).



23. ◆ **MULTIPLE CHOICE** What is the x -coordinate of the solution of the linear system $15x - 16y = -34$ and $2x + y = 8$?

(A) 0

(B) 2

(C) 4

(D) 6

24. **WRITING** Suppose you solve a linear system using substitution. *Explain* how you can use a graph to check your solution.