3.2 EXERCISES

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: To solve a linear system where one of the coefficients is 1 or −1, it is usually easiest to use the __?__ method.

2. **WRITING** *Explain* how to use the elimination method to solve a linear system.

EXAMPLES 1 and 4
on pp. 160–163
for Exs. 3–14

SUBSTITUTION METHOD Solve the system using the substitution method.

3. $2x + 5y = 7$
$x + 4y = 2$

4. $3x + y = 16$
$2x − 3y = −4$

5. $6x − 2y = 5$
$−3x + y = 7$

6. $x + 4y = 1$
$3x + 2y = −12$

7. $3x − y = 2$
$6x + 3y = 14$

8. $3x − 4y = −5$
$−x + 3y = −5$

9. $3x + 2y = 6$
$x − 4y = −12$

10. $6x − 3y = 15$
$−2x + y = −5$

11. $3x + y = −1$
$2x + 3y = 18$

12. $2x − y = 1$
$8x + 4y = 6$

13. $3x + 7y = 13$
$x + 3y = −7$

14. $2x + 5y = 10$
$−3x + y = 36$

EXAMPLES 2 and 4
on pp. 161–163
for Exs. 15–27

ELIMINATION METHOD Solve the system using the elimination method.

15. $2x + 6y = 17$
$2x − 10y = 9$

16. $4x − 2y = −16$
$−3x + 4y = 12$

17. $3x − 4y = −10$
$6x + 3y = −42$

18. $4x − 3y = 10$
$8x − 6y = 20$

19. $5x − 3y = −3$
$2x + 6y = 0$

20. $10x − 2y = 16$
$5x + 3y = −12$

21. $2x + 5y = 14$
$3x − 2y = −36$

22. $7x + 2y = 11$
$−2x + 3y = 29$

23. $3x + 4y = 18$
$6x + 8y = 18$

24. $2x + 5y = 13$
$6x + 2y = −13$

25. $4x − 5y = 13$
$6x + 2y = 48$

26. $6x − 4y = 14$
$2x + 8y = 21$

27. **ERROR ANALYSIS** *Describe* and correct the error in the first step of solving the system.

$3x + 2y = 7$
$5x + 4y = 15$

$-6x - 4y = 7$
$5x + 4y = 15$
$\overline{\qquad}$
$-x \qquad = 22$
$x = -22$ ✗

CHOOSING A METHOD Solve the system using any algebraic method.

28. $3x + 2y = 11$
$4x + y = −2$

29. $2x − 3y = 8$
$−4x + 5y = −10$

30. $3x + 7y = −1$
$2x + 3y = 6$

31. $4x − 10y = 18$
$−2x + 5y = −9$

32. $3x − y = −2$
$5x + 2y = 15$

33. $x + 2y = −8$
$3x − 4y = −24$

34. $2x + 3y = −6$
$3x − 4y = 25$

35. $3x + y = 15$
$−x + 2y = −19$

36. $4x − 3y = 8$
$−8x + 6y = 16$

37. $4x − y = −10$
$6x + 2y = −1$

38. $7x + 5y = −12$
$3x − 4y = 1$

39. $2x + y = −1$
$−4x + 6y = 6$