## 3.1 EXERCISES

### SKILL PRACTICE

1. **VOCABULARY** Copy and complete: A consistent system that has exactly one solution is called ___?___.

2. **WRITING** *Explain* how to identify the solution(s) of a system from the graphs of the equations in the system.

**EXAMPLE 1**
on p. 153
for Exs. 3–16

**GRAPH AND CHECK** Graph the linear system and estimate the solution. Then check the solution algebraically.

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

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

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

6. $x + 2y = 2$
   $x - 4y = 14$

7. $y = 2x - 10$
   $x - 4y = 5$

8. $-x + 6y = -12$
   $x + 6y = 12$

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

10. $y = -3x - 13$
    $-x - 2y = -4$

11. $x - 7y = 6$
    $-3x + 21y = -18$

12. $y = 4x + 3$
    $20x - 5y = -15$

13. $4x - 5y = 3$
    $3x + 2y = 15$

14. $7x + y = -17$
    $3x - 10y = 24$

15. **TAKS REASONING** What is the solution of the system?

$$-4x - y = 2$$
$$7x + 2y = -5$$

**Ⓐ** $(2, -6)$     **Ⓑ** $(-1, 6)$     **Ⓒ** $(1, -6)$     **Ⓓ** $(-3, 8)$

16. **ERROR ANALYSIS** A student used the check shown to conclude that $(0, -1)$ is a solution of this system:

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

*Describe* and correct the student's error.

$3x - 2y = 2$

$3(0) - 2(-1) \overset{?}{=} 2$

$2 = 2$ ✕

**EXAMPLES 2 and 3**
on p. 154
for Exs. 17–29

**SOLVE AND CLASSIFY** Solve the system. Then classify the system as *consistent and independent*, *consistent and dependent*, or *inconsistent*.

17. $y = -1$
    $3x + y = 5$

18. $2x - y = 4$
    $x - 2y = -1$

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

20. $y = 2x - 1$
    $-6x + 3y = -3$

21. $-20x + 12y = -24$
    $5x - 3y = 6$

22. $4x - 5y = 0$
    $3x - 5y = -5$

23. $3x + 7y = 6$
    $2x + 9y = 4$

24. $4x + 5y = 3$
    $6x + 9y = 9$

25. $8x + 9y = 15$
    $5x - 2y = 17$

26. $\frac{1}{2}x - 3y = 10$
    $\frac{1}{4}x + 2y = -2$

27. $3x - 2y = -15$
    $x - \frac{2}{3}y = -5$

28. $\frac{5}{2}x - y = -4$
    $5x - 2y = \frac{1}{4}$