

## Chapter 7

### 7.1 Solve the linear system by graphing. Check your solution.

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

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

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

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

5.  $3x - 2y = -5$   
 $4x + 3y = -18$

6.  $\frac{2}{3}x + \frac{1}{3}y = \frac{16}{3}$   
 $-\frac{2}{5}x + y = \frac{8}{5}$

### 7.2 Solve the linear system using substitution.

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

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

9.  $x = 2y - 5$   
 $2x - y = 11$

10.  $2x - y = 0$   
 $x + 3y = -56$

11.  $1.5x - 2.5y = 22$   
 $x - y = 10$

12.  $\frac{1}{2}x + \frac{3}{4}y = 5$   
 $x - \frac{1}{2}y = 6$

### Solve the linear system using elimination.

7.3 13.  $x + 2y = 2$   
 $-x + 3y = 13$

14.  $3x - 4y = -16$   
 $x - 4y = -40$

15.  $3x + 2y = -31$   
 $5x + 2y = -49$

16.  $5x + 4y = 6$   
 $7x + 4y = 14$

17.  $10y - 3x = -41$   
 $3x - 5y = 16$

18.  $4x - 3y = 39$   
 $7y = 4x - 79$

7.4 19.  $x + y = -3$   
 $5x + 7y = -9$

20.  $5x + 2y = -19$   
 $10x - 7y = -16$

21.  $8x - 3y = 61$   
 $2x - 5y = -23$

22.  $4x - 3y = -2$   
 $6x + 4y = 31$

23.  $5x - 2y = 53$   
 $2x + 6y = 11$

24.  $15x - 8y = 6$   
 $25x - 12y = 16$

### 7.5 Graph the linear system. Then use the graph to tell whether the linear system has *one solution*, *no solution*, or *infinitely many solutions*.

25.  $2x + y = -3$   
 $y = -2x + 5$

26.  $2y - 4x = 10$   
 $-2y - 2x = 8$

27.  $10x + 5y = -15$   
 $y = -2x - 3$

### 7.5 Solve the linear system using substitution or elimination.

28.  $y - 3x = 5$   
 $x = y - 5$

29.  $2y - 3x = 36$   
 $y = 3x - 12$

30.  $5x + 5y = -32$   
 $3x + 3y = 14$

31.  $4x + 6y = 11$   
 $y = -\frac{2}{3}x + 7$

32.  $3y - 3x = 12$   
 $y = x - 4$

33.  $x + 2y = -30$   
 $y = \frac{1}{2}x + 15$

### 7.6 Graph the system of inequalities.

34.  $y \geq -5$   
 $y \leq -2$

35.  $x \geq -3$   
 $y < 1$

36.  $y < -2x - 3$   
 $x - y > -4$

37.  $x + 4y \geq -8$   
 $y - 4x < 8$   
 $x > -1$

38.  $x > 3$   
 $x < 5$   
 $y > -2$   
 $y \leq 0$

39.  $x + y > 3$   
 $x - y > 5$   
 $x + 2y \leq 8$   
 $x - 5y > 10$