Plot each point, joining as you go. Follow any special directions when given:

1. (1, 22)

2. (-1, 20)

3. (-1, 16)

4. (3, 14)

5. (4, 10)

6. (-5, 4)

7. (-6, 7)

8. (-7, 0)

9. (-1, -3)

10. (0, -6)

11. (-2, -8)

12. (6, -8)

13. (1, -6)

14. (0, -3)
Stop here.

15. (1, -3)
Connect these 2 and stop

16. (2, -6)

17. (8, -8)

18. (3, -6)

19. (2, -3)

20. (10, 3)

21. (11, 7)

22. (6, 15)

23. (11, 13.5)

24. (13, 15.5)

25. (12, 17)

26. (7, 17.5)

27. (7, 20)

28. (5, 22)

29. (1, 22)
To complete the picture shade the point (4.5, 17.5) with large dot.

Plot the following points, Connect the points as you go.

1.	(0, 6)	11.	(3, -4)
2.	(7, 9)	12.	(4, -7)
3.	(9, 12)	13.	(7, -8)
4.	(11, 12.5)	14.	(4, -7.5)
5.	(13, 12)	15.	(1, -8)
6.	(14, 11)	16.	(3, -7)
7.	(17, 10)	17.	(2, -4)
8.	(14, 9.5)	18.	(-2, -2)
9.	(11, 1)	19.	(-9, -5)
10.	(5, -2)	20.	(0, 6)

Now the point (12.5, 10.5) should complete the figure.

Plot these 10 points connecting each to form a closed figure.

1.	(-8, 8)	6.	(11, -3)
2.	(-3, 10)	7.	(-1, -9)
3.	(1, 10)	8.	(-13, -3)
4.	(6, 8)	9.	(-12, 4)
5.	(10, 4)	10.	(-8, 8)

Now connect (-1, -9) to each of the other points in this set. Notice (-1, -9) is point #7.

Now plot these 4 points and join.

1.	(5, -6)	3.	(-4, -10)
2.	(2, -10)	4.	(-7, -6)

Plot each point connecting the points in each group as you go.

I.   1. (9,7)   6. (0, -3)

2. (13, 11)   7. (8, 0)

3. (12, 12)   8. (10, 3)

4. (2, 5)   9. (11, 6.5)

5. (-2, -1)

II. 10. (5, -6)   19. (-11, -2)

11. (4, -5)   20. (-9, 0)

12. (1, -6)   21. (-5, 2)

13. (-8, -6)   22. (5, 11)

14. (-9, -8)   23. (9, 24)

15. (-9, -6)   24. (14, 20)

16. (-11, -7)   25. (8, 11)

17. (-10, -5)   26. (8.5, 9.6)

18. (-11, -4)

III. 26. (1, -6)   30. (-1.5, -8.5)

27. (0.5, -8)   31. (0.5, -8)

28. (-2, -8)   32. (-1, -9)

29. (0.5, -8)

IV. 33. $(6\frac{1}{7}, -\frac{3}{7})$ 37. $(3\frac{2}{3}, -10)$

34. (3, -12)   38. (2, -11.5)

35. $(3\frac{2}{3}, -10)$ 39. $(3\frac{2}{3}, -10)$

36. (1.5, -10.5)

V.   40. (8.5, 4)   41. (11.5, 7)   42. (12, 10)

VI. Plot circle with center at (-8.5, -3.5) and radius $\frac{1}{2}$, shade circle.

Without drawing the graph, determine which points cor-
responding to the following given coordinates are on
the line which forms the graph of the equation:

1. $x + y = 6$:

    a. (4, 2)   c. (3, 4)

    b. (-1, 7)   d. (-3, -3)

2. $x - y = 1$:

    a. (5, 4)   c. (0, -1)

    b. (-4, 3)   d. (-2, -1)

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

    a. (2, 1)   c. (1, -10)

    b. (-2, -1)   d. (-4, 5)

4. $4x + 3y = 0$:

    a. (3, 4)   c. (0, 0)

    b. (6, -8)   d. (-9, 12)

5. $x - 5y = 4$:

    a. (-1, -1)   c. (9, 1)

    b. (-6, -2)   d. (4, 0)

6. $2x + 7y = 18$:

    a. (2, 2)   c. (16, -2)

    b. (-9, 0)   d. (5, 1)

7. $5x - 2y = -3$:

    a. (-3, -6)   c. (-1, -1)

    b. (5, 11)   d. (7, 16)

(Continued)

8. $6x + 8y = 16$:

    a. (0, 2)   c. (4, -1)

    b. (-4, 5)   d. (8, 4)

9. $9x + 4y = -36$:

    a. (4, 0)   c. (0, -9)

    b. (-3, -2)   d. (-8, 9)

10. $4x - 6y = 48$:

    a. (9, -2)   c. (-5, -16)

    b. (6, 4)   d. (0, -8)

Without drawing the graphs, determine which of the following equations have as a graph a line that passes through the origin:

1. $y = 3x$ 6. $11x - y = 8$

2. $4x + 9y = 3$ 7. $y = -x$

3. $x = 4$ 8. $6x - 5y = 0$

4. $x + y = 7$ 9. $8y = 3x$

5. $y = -2$

Without drawing the graph, determine the coordinates of the point at which the graph of each of the following equations crosses the Y-axis:

1. $x + y = 3$ 6. $4x + 8y = -12$

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

3. $5x - 9y = 3$ 8. $6x - y = -3$

4. $x - y = 8$ 9. $8x - 7y = 5$

5. $2x + 5y = 10$

Without drawing the graph, determine the coordinates of the point at which the graph of each of the following equations crosses the X-axis:

1. $x + y = 6$

2. $4y = 3x$

3. $7x + 3y = 0$

4. $x - y = 8$

5. $2x + 3y = 12$

6. $9x - 11y = 3$

7. $x - y = -3$

8. $5x - 2y = -10$

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

Draw the graph of the following equations:

1. a. $y = x + 1$
   b. $y = x - 2$
   c. $y = 2 + x$
   d. $y = 2x + 3$
   e. $y = 3x - 4$

2. a. $y = -x + 4$
   b. $y = 7 - x$
   c. $y = 1 - 3x$
   d. $y = -x - 2$
   e. $y = -5 - 2x$

3. a. $x + y = 3$
   b. $x + y = 6$
   c. $x + y = -4$
   d. $x + y = 2$
   e. $x + y = -1$

4. a. $x - y = 2$
   b. $x - y = 5$
   c. $x - y = -1$
   d. $x - y = -6$
   e. $x - y = 7$

5. a. $y = x$
   b. $y = 3x$
   c. $y = -4x$
   d. $y = -\frac{2}{3}x$
   e. $y = \frac{x}{4}$

6. a. $y - 2 = x$
   b. $y - x = -5$
   c. $4 - y = x$
   d. $-y = -2x$
   e. $3 - x = -y$

7. a. $3y = 6x$
   b. $4y = 12x$
   c. $-2y = 6x$
   d. $-6y = -24x$
   e. $5y = -35x$

8. a. $3y = x$
   b. $4y = 7x$
   c. $-2y = x$
   d. $-5y = -4x$
   e. $x = \frac{y}{3}$

9. a. $x + y = 0$
   b. $x - 2y = 0$
   c. $4x + 2y = 0$
   d. $8y + 2x = 0$
   e. $3x - 2y = 0$

10. a. $2x + y = 5$
    b. $y + 3x = 3$
    c. $4x = 15 - y$
    d. $10 = 3x + y$
    e. $2x - y = -4$

Draw the graph of each of the following equations: (Continued)

11.   a. $2x + 2y = 6$

     b. $6x + 3y = 9$

     c. $8x - 2y = 10$

     d. $4x - 3y = 12$

     e. $3x = 6 - 4y$

     f. $5x - 2y = 20$

     g. $x - 3y + 12 = 0$

     h. $4x - 5y = 6$

     i. $9y + 12x = 15$

     j. $10x - 4y - 9 = 0$

Graph each equation. Find x and y intercepts:

1. $y = 3x$

2. $y = 4x$

3. $x = 4$

4. $y = -2x$

5. $y = -3x$

6. $y = -2$

7. $2y = x$

8. $4y = -x$

9. $2x - y = 1$

10. $2x + y = 4$

11. $6x - 2y = 1$

12. $2x + 3y = 6$

13. $5x - 3y = 30$

14. $7y + 4x = 28$

15. $12x - 5y = 60$

16. $9y - 2x = 36$

17. $3y = 7x$

18. $x = y$

19. $3x + y = 4$

20. $y = -x$

21. $y - 4x = 5$

22. $x + y = 4$

23. $2x - y = 5$

24. $x - y = 5$

25. $7x + y = 3$

26. $y = 2x - 7$

27. $2x + 3y = 9$

28. $x - y = 9$

29. $x - 4y = 13$

30. $2y + 7x = 0$

31. $4x - 3y = 1$

32. $2x - y = 6$

33. $y = x + 1$

34. $y = 2x + 2$

35. $y = 2x - 2$

36. $y = -x + 4$

37. $y = -x - 4$

38. $2x - y = 0$

39. $y - x = 3$

40. $x + y = 7$

41. $2x - y = 3$

42. $5x + 3y = 0$

43. $4x - 3y = 12$

44. $2x + 3y = 7$

45. $x - 2y = 3$

46. $y = 5x - 3$

47. $y = 3x + 5$

48. $3x + y = 6$

49. $x = 5$

50. $3x + 2y = 5$

51. $2x - 3y = 7$

52. $x + 3y = 9$

53. $y = 2$

54. $x = 5y$

55. $x - y = 10$

56. $4x - y = 2$

57. $3x - y = 6$

58. $3x + y = 5$

59. $2x = 3y$

60. $x + y = -2$

Use $m = \dfrac{y_2 - y_1}{x_2 - x_1}$ to find the slope of the line joining the given points:

1. (2, 3);(4,5)   9.   (-1,-1);(-1,2)

2. (6,1);(10,3)   10. (-2,1);(2,-1)

3. (1,-2);(4,-6)   11. (0,0);(2,1)

4. (-2,1);(2,-2)   12. (-3,1);(0,2)

5. (-1,5);(-1,-5)   13. (1,2);(-1,2)

6. (5,-1);(-5,-1)   14. (2,-3);(0,3)

7. (-3,2);(1,3)   15. (1,4);(-1,2)

8. (0,2);(-1,3)

If $Ax + By = C$ is given, then $m = -\dfrac{A}{B}$. Find the slope of the following lines:

16. $2x - y = 1$ 21. $-x - 3y = 6$

17. $3y + x = 2$ 22. $5x - y = 8$

18. $2y - x = 4$ 23. $6x - 3y = 5$

19. $3x - 2y = 5$ 24. $2x = 3y + 7$

20. $4x + 3y = 7$ 25. $4y = 8 - 4x$

Find a:

26. $(-3, 2a); (-1, 3a) \quad m = -\dfrac{1}{2}$

27. $(3, a); (-5, 5a) \quad m = \dfrac{1}{2}$

28. $(2, 0); (7, a) \quad m = -1$

29. $(3, 5); (4, a) \quad m = 2$

30. $(-2, 6); (1, 3a) \quad m = -2$

Find the slope of the line joining the following points.

Use $m = \dfrac{y_2 - y_1}{x_2 - x_1}$:

1.	(3,1);(5,4)	10.	(-1,3);(2,3)
2.	(1,3);(4,5)	11.	(-3,2);(5,-2)
3.	(-2,3);(0,2)	12.	(0,0);(-4,-2)
4.	(3,-1);(3,4)	13.	(-5,-3);(0,0)
5.	(4,2);(-3,2)	14.	(6,-5);(1,10)
6.	(2,4);(-1,-1)	15.	(5,2);(2,-1)
7.	(1,4);(4,7)	16.	(2,3);(3,2)
8.	(3,2);(5,6)	17.	(2,5);(3,6)
9.	(2,1);(2,3)	18.	(1,6);(4,8)

Find the slope of each line using $-\dfrac{A}{B}$:

19.	5x - y = -7	29.	3x - y = -4
20.	x - y = 3	30.	7x + y = 5
21.	2x + y = -8	31.	x + 2y - 3 = 0
22.	x + 2y = 6	32.	x + 3y + 6 = 0
23.	6x - 3y = 1	33.	2x - 5y = 0
24.	8x + 4y = -3	34.	4x - 7y = 0
25.	5x + y = 7	35.	x + 4 = 0
26.	x = 2	36.	2y - 6 = 0
27.	y - 3 = 0	37.	x + 1 = 0
28.	2x + y = 5	38.	y - 5 = 0

Find the equation of line through given point having given slope:

1. $(-3, -2)$; 3

2. $(-1, 0)$; 5

3. $(2, 8)$; -2

4. $(-5, 0)$; $\dfrac{2}{7}$

5. $(-2, -5)$; $\dfrac{7}{2}$

6. $(0, 0)$; $-\dfrac{8}{3}$

7. $(0, 0)$; $-\dfrac{3}{8}$

8. $(1, -5)$; 0

9. $(-2, 3)$; 0

10. $(-1, 2)$; -2

For each of the following, write an equation of the straight
line having the following given slope and y-intercept number:

|	Slope	y-intercept number		Slope	y-intercept number
1.	5	1	6.	6	3
2.	-2	-7	7.	9	-2
3.	4	0	8.	-3	6
4.	0	-1	9.	$\frac{2}{3}$	8
5.	7	$-\frac{1}{2}$	10.	$-\frac{5}{8}$	$-\frac{3}{4}$

For each of the following, write an equation of the straight
line that passes through the point whose coordinates are:

1. (3, 5) with the slope 4

2. (6, -2) with the slope 5

3. (-4, 1) with the slope -2

4. (-2, -3) with the slope -3

5. (0, 4) with the slope -1

6. (8, 3) with the slope $\frac{2}{3}$

7. (0, 0) with the slope $\frac{7}{4}$

8. (-7, 6) with the slope $-\frac{1}{2}$

9. (2, 2) with the slope $-\frac{5}{3}$

10. (-5, -6) with the slope $\frac{3}{8}$

For each of the following, write the equation of the straight line that passes through two points having the coordinates:

1. (2, 3) and (5, 9)

2. (1, 8) and (3, 2)

3. (0, 4) and (6, 10)

4. (-2, 5) and (4, 7)

5. (-1, -4) and (8, 3)

6. (-6, 10) and (-2, -1)

7. (-9, 4) and (3, -8)

8. (0, 0) and (2, -6)

9. (-7, -10) and (-1, -2)

10. (8, 0) and (-2, 4)

11. (-5, 3) and (0, -2)

12. (6, 9) and (9, 6)

Write the equation of the following lines by selecting two points on the line and using their coordinates. Check your equation.
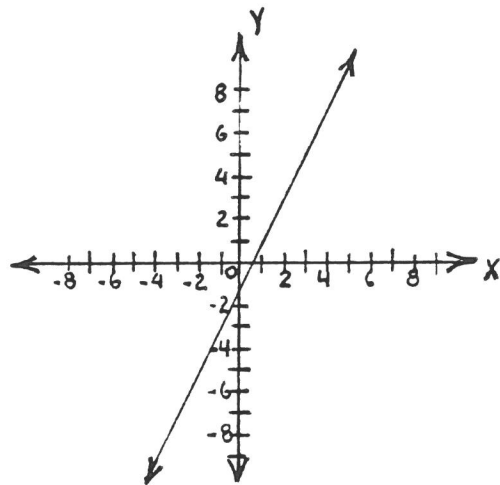
1. Use the slope formula to find the slopes of lines joining these pair of points:

   a. (5, 1) (-4, -2)

   b. (-2, -1) (-4, -9)

   c. (-3, -2) (1, -4)

   d. (1, 2) (1, 6)

   e. (5, 1) (2, 1)

2. Find the slope of lines perpendicular to the line joining:

   a. (-1, 2) (-3, -6)

   b. (-3, -2) (-6, -1)

   c. (2, 3) (2, 5)

   d. (4, 2) (1, 2)

   e. (2, -6) (3, 4)

3. Find the equations of the lines through the given point and having the given slope:

   a. (3, 4) m = -1

   b. (1, 3) m = $\frac{1}{2}$

   c. (-2, -5) m = 0

   d. (4, 7) m = $\frac{3}{4}$

   e. (1, -3) m = $-\frac{2}{3}$

4. Find the equations of the lines joining the following points:

   a. (-5, 2) (-1, 1)

   b. (-2, -5) (7, 4)

   c. (-1, 0) (0, 6)

   d. (-2, -2) (-2, 4)

   e. (7, 5) (-3, 5)

5. Find the slope and y-intercept of the following lines:

   a. $y = 2x + 5$

   b. $2y = 3x - 8$

   c. $4x + y = 7$

   d. $2x - y = 4$

   e. $y = 4$

6. Determine the equation of the line satisfying the given conditions:

   a. y-intercept 4 and parallel to the line $x + y = 5$.

   b. through (1, 3) and parallel to the line $2x + 3y = 4$.

   c. through (-4, 3) and parallel to the line $y = 5$.

   d. slope 3 and x-intercept 4.

   e. through (-2, 1) and parallel to the line joining (1, 4) and (2, -3).

   f. x-intercept 2, y-intercept 3.

   g. parallel to the y-axis and through (3, -4).

   h. through (2, 5) and perpendicular to the line $2x - 3y = 7$.

   i. through (3, 2) and perpendicular to the line $3x - 5y = 2$.

   j. x-intercept 3 and parallel to a line whose slope is 2.

Find the slopes of lines joining these pairs of points:

1. (5, 1) (-4, -2)   4. (-3, -8) (-3, 9)

2. (1, 2) (1, 6)   5. (0, 7) (7, 0)

3. (5, 1), (2, 1)   6. (-1, 3) (-3, -6)

Find the slopes of $\perp$ lines to the lines joining:

1. (-1, 2) (-3, -6)   4. (4, 2) (1, 2)

2. (-3, -2) (-6, -1)   5. (9, 1) (10, 3)

3. (2, 3) (2, 5)   6. (1, 7) (5, 3)

Find the equation of the line if:

1. (3, 4) m = -1   4. (1, -3) m = $-\frac{2}{3}$

2. (4, 7) m = $\frac{3}{4}$ 5. (-2, -5) m = 0

3. (1, 3) m = $\frac{1}{2}$ 6. (-8, -7) no slope

Find the slope and y-intercept:

1. y = 2x + 5   6. x + 2 = 0

2. 2y = 3x - 8   7. 4x - 3y = 5

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

4. 2x - y = 4   9. 5x + 6y = 30

5. y = 4

Find the equation of the line if:

1. y-intercept is 4, line is parallel to x + y = 5.

2. through (1, 3), parallel to 2x + 3y = 4.

3. through (-4, 3), parallel to y = 5.

4. slope 3, x-intercept 4.

5. parallel to y-axis, through (3, -4).

(Continued):

6. through $(2, 5)$, $\perp$ to $2x - 3y = 7$.

7. through $(3, 2)$, $\perp$ to $3x - 5y = 2$.

8. x-intercept 3, parallel to line whose slope = 2.

State the coordinates of the points in which the graph of each of the following equations intersects the axes:

1. $x + y = 5$

2. $x + y = -5$

3. $x - y = -5$

4. $x - y + 5 = 0$

5. $x - y = 0$

6. $x + y = 0$

7. $y - 8 = 0$

8. $y + 3 = 0$

9. $x + 1 = 0$

10. $x - 5 = 0$

11. $6x + 7 - 8 = 0$

12. $3x - y + 6 = 0$

13. $7x - y - 2 = 0$

14. $y - 2x = 5$

15. $y - 3x = 4$

16. $7x + y = 5$

17. $2x - 3y = 6$

18. $3x - 2y - 6 = 0$

Graph each of the following equations on a separate Coordinate Plane:

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

2. $2x - 5y = 10$

3. $x - y = 5$

4. $x + y = -1$

5. $3x + 2y = 0$

6. $x + y = 0$

7. $y = 7$

8. $x = -2$

9. $y + 8 = 0$

10. $x - 4 = 0$

11. $7x + y = 5$

12. $y - 2x = 5$

Write each of the following equations in Standard Form with integral coefficients:

1. $y = -3x + 2$

2. $-6y + 8x = 2$

3. $6 - x = y$

4. $y = -6x$

5. $3y = 9x + 15$

6. $y = \frac{2}{3}x - 4$

7. $y = \frac{-5}{3}x + \frac{2}{7}$

8. $1 + 5x = 2y - 4$

9. $2 = 7y - 3x$

Write each of the following equations in Slope-intercept form.

1. $2x - y = 6$

2. $2x + y = 7$

3. $x - y = 4$

4. $x = 10y$

5. $\dfrac{3x}{2} + y = 1$

6. $2y - 4x = 8$

7. $4x - 3y - 1 = 0$

8. $6x - 2y = 1$

Find the equations of the following lines. Express answer
in Ax + By = C form:

1. m = 2, y-intercept 5.

2. Slope $\frac{4}{5}$, y-intercept -3.

3. Slope = 3, contains (0, 5).

4. m = 0, contains (3, 2).

5. m = 0, y-intercept 0.

6. Slope undefined, contains (1, 2).

7. m = 0, contains (1, 5).

8. Slope not defined, contains (0, 5).

9. m = 2, contains (1, 4).

10. Line is parallel to x-axis, contains (2, -4).

11. Slope = 3, passes through (1, 2).

12. Line parallel to y-axis, contains (2, -4).

13. Slope is $\frac{1}{2}$, passes through (4, 4).

14. Passes through (0, 3) and (2, 5).

15. Passes through (2, 3) and (5, 6).

16. Contains the points (5, -4) and (3, -4).

17. Contains (2, 1) and (2, 5).

18. Contains (2, 3) and is parallel to 5x - 3y + 7 = 0.

19. Passes through (-1, -3) and parallel to 2x + 7y = 10.

20. Passes through (2, 1) and parallel to x + 5 = 0.

(Continued):

21. With x-intercept 2 and y-intercept 4.

22. Contains (1, 2) and parallel to y - 8 = 0.

23. With x-intercept -4, y-intercept 1.

24. With x-intercept -2, y-intercept -6.

25. Slope undefined, contains (3, 4).

26. With y-intercept, 4 and parallel to x = 2y.

27. Contains (1, 2), parallel to line joining (-3, 4)
     and (2, 9).

28. Contains (4, 5), perpendicular to y - 11 = 0.

29. Contains (-3, 4), perpendicular to 3x - 4y = 11.

30. Contains (-3, -2), perpendicular to line joining
     (2, 5) and (-4, 3).

Find the equations of each of the following lines. Write your answers in general form.

1. Slope = 2; y-intercept = 5

2. Slope = $\frac{4}{5}$;   y-intercept = -3

3. Slope = 0; contains the point (3, 2)

4. Slope not defined; contains the point (-6, 9)

5. Line is parallel to the x-axis and contains the point (4, -5)

6. Line is parallel to the y-axis and contains the point (-4, 0)

7. Slope = 2; contains the point (1, 4)

8. Slope = $-\frac{2}{3}$; contains the point (-1, -2)

9. Passes through the points (0, 3) and (2, 5)

10. Passes through the points (2, 3) and (5, 6)

11. Passes through the points (5, -4) and (-3, -4)

12. Contains the points (2, 1) and (2, 5)

13. Contains the point (2, 3) and is parallel to the line 5x - 3y + 7 = 0

14. Passes through the point (-1, -3) and is parallel to the line 2x + 7y - 10 = 0

15. Passes through the point (2, 1) and is parallel to the line x + 5 = 0

16. Passes through the point (1, 2) and is parallel to the line y - 8 = 0

17. x-intercept 2 and y-intercept 4

18. x-intercept -4 and y-intercept 1

19. x-intercept -2 and y-intercept -6

20. y-intercept 4 and parallel to the graph of x = 2y

21. Containing the point (1, 2) and parallel to the segment joining (-3, 4) and (2, 9)

(Continued):

22. Passes through the point (-3, 5) and is perpendicular
    to the line $7x - 2y = 4$

23. Passes through the point (5, -2) and is perpendicular
    to the line $14x + 3y + 7 = 0$

24. Passes through the point (2, 3) and with x-intercept
    twice the y-intercept

25. Passes through the point (2, 5) with the sum of the
    x and y intercepts equal to 0

Numbers 26-34 apply to the triangle with vertices A(2, -3),
B(4, 5) and C(-2, -1). In each find an equation of the
specified line.

26. The median to AB

27. The median to BC

28. The altitude to AC

29. The perpendicular bisector of AB

30. The right bisector of AC

31. The perpendicular bisector of BC

32. The median to AC

33. The altitude to AB

34. The altitude to BC

35. Passes through the point (1, 3) and the point of
    intersection of the lines $x - 2y - 4 = 0$ and $2x + 5y + 1 = 0$

36. Slope = -2 and passes through the point of intersection
    of $x + y = 4$ and $5x - y = 2$

37. Through the point of intersection of $5x - 2y = 2$ and
    $2x - 3y = 3$ and is perpendicular to the line through
    the points (4, -1) and (1, -6)

38. Through (5, -2) and the point of intersection of $x - 4y = 3$
    and $7x + 3y + 1 = 0$

(Continued):

39. Joining (0, 0) the the mid-point of the distance
    between (3, -6) and (1, 1)

40. Through the intersection of 2x - 5y + 7 = 0 and
    6x - 2y - 9 = 0 and is parallel to the line 2x - 3y = 16

Solve each of the following by graphing:

1. $x + y = 6$

    $x - y = 2$

2. $x + y = 1$

    $x - y = 5$

3. $2x + y = 5$

    $y = 3x$

4. $x + 2y = 1$

    $x = y + 4$

5. $2x = 1 - y$

    $y = x - 5$

6. $2x - y = 2$

    $2x + y = 10$

7. $3x + y = 2$

    $x - 2y = 10$

8. $x + 3y = 7$

    $2x = y - 7$

9. $x - 2y = -9$

    $2x + y = 7$

10. $x - 3y = 15$

    $x + 2y = -5$

11. $2x + y = 9$

    $3x = y + 1$

12. $x + 2y = 11$

    $3x - y = 5$

13. $3x + y = 3$

    $2x - 3y = 13$

14. $y = 3 - x$

    $y = 1 + x$

15. $y = 5 - x$

    $y = 3 + x$

16. $y = 2x + 4$

    $x + y = 1$

17. $x - y = 1$

    $y = 2x + 1$

18. $-x - y = 0$

    $x + y = -4$

19. $x + 2y = 3$

    $2x + 4y = 6$

20. $2y - 3x = 6$

    $y = 3x$

Solve each of the following by graphing: (Continued)

21. $x + 2y = 5$

   $x = 3y$

22. $x = 1 - y$

   $y = -1 - x$

23. $x = y$

   $3y = 3x$

24. $y = 2x - 4$

   $6x + y = 0$

25. $y = x$

   $y = 2 - x$

26. $x + y = 3$

   $x - y = 1$

27. $x + y = 0$

   $x + 2y = 2$

28. $2x + y = 3$

   $x + 2y = 0$

29. $y = 3 - x$

   $x + y = 5$

30. $y = x - 2$

   $2x - 2y = 4$

Solve the following:

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

2. $5a + b = 11$
   $3a + b = 7$

3. $m - 3n = -12$
   $4m + 3n = 27$

4. $5r + 2s = 13$
   $3r + s = 7$

5. $3x + 2y = 19$
   $x - 3y = -12$

6. $10a - 3b = -7$
   $4a + 5b = 22$

7. $7x + 5y = 3$
   $2x + y = 0$

8. $3c + 4d = 6$
   $c - 2d = -8$

9. $9m + 7n = 17$
   $6m - 5n = -8$

10. $4c + 12w = 7$
    $6c - 8w = -9$

11. $16r + 3s = 11$
    $20r + 7s = 30$

12. $5m + 11n = 47$
    $6m + 5n = -1$

13. $8a + 5b = 26$
    $3a + 4b = 31$

14. $4x + 3y = 0$
    $5x + 4y = -1$

15. $x - y = 73$
    $2x - 7y = 21$

16. $m - n = 52$
    $3m - 8n = 6$

17. $2s - 3t = 1$
    $3s - 4t = 7$

18. $2a + 5b = 18$
    $3a + 4b = 27$

19. $c - 2d = 5$
    $-5c + 4d = -22$

20. $9q - 8r = 1$
    $6q + 12r = 5$

Solve the following: (Continued)

21. $4c - d = -10$
       $3c + 5d = 4$

22. $5p - 3w = 6$
       $p + 7w = -52$

23. $d + f = 3$
       $3d - 5f = 17$

24. $4a - 3b = -1$
       $a - b = -1$

25. $2a + 3b = -1$
       $3a + 5b = -2$

26. $2w - 3z = -1$
       $3w + 4z = 24$

27. $2m + 3n = 0$
       $5m - 2n = -19$

28. $5a - 2b = 0$
       $2a - 3b = -11$

29. $3c - 2d = 13$
       $7c + 3d = 15$

30. $7p + 5q = 2$
       $8p - 9q = 17$

31. $m - 3n = -4$
       $2m + 6n = 5$

32. $3r - 5s = 8$
       $r + 2s = 1$

Using all the real numbers, solve each of the following
systems of equations graphically, then check:

1. $y = x$

    $x + y = 4$

2. $y = 4x$

    $x + y = 5$

3. $x = 2y$

    $x - y = 2$

4. $x = 5y$

    $x - y = 4$

5. $y = 3x$

    $x + y = 8$

6. $y = x + 3$

    $x + y = 9$

7. $y = x - 1$

    $x + y = 11$

8. $x = y + 5$

    $2x + y = 13$

9. $x = y - 2$

    $3x - y = 8$

10. $y = x - 3$

    $2x + 3y = 16$

11. $x + y = 6$

    $x - y = 2$

12. $x + y = 5$

    $x - 2y = -4$

13. $2x - y = 0$

    $3y - 2x = 4$

14. $2x = 5 + y$

    $3x - 4y = 0$

15. $3x - 5y = 2$

    $4x - 6 = 5y$

16. $y = -x$

    $x - y = 2$

17. $x = -4y$

    $2x + 3y = 10$

18. $x = 2$

    $2x - 3y = 13$

19. $3x = -5y$

    $x + 4y = -7$

20. $y = x - 4$

    $x + y = -2$

(Continued):

21. $x = y + 7$

    $x = 2x - 10$

22. $x + y = -1$

    $x - y = 3$

23. $x - y = 8$

    $2x + 3y = 6$

24. $3x + 4y = -6$

    $4x - 2y = 14$

25. $y = -2x$

    $x + y = 1$

26. $2x = -3y$

    $x + y = -2$

27. $x = -3$

    $x + 2y = 5$

28. $3x + y = 0$

    $2x + y = 2$

29. $y = 6 - x$

    $x - y = -10$

30. $x + y = 1$

    $x - y = -7$

31. $2x + y = -5$

    $x + 2y = 2$

32. $5x + y = -3$

    $2x = 3y - 8$

33. $4x - 3y = -11$

    $2x + 5y = 1$

34. $x = 3y$

    $2x - y = -5$

35. $3x = 2y$

    $x - 3y = 7$

36. $y = -5$

    $x - y = 2$

37. $4x - 2y = 0$

    $3x + 2y = -7$

38. $y = x + 1$

    $x + y = -5$

39. $x + y = -6$

    $x - y = 4$

40. $3x + y = -7$

    $x - 3y = 1$

(Continued):

41. $5x - 2y = -7$

    $5 = y - 3x$

42. $2x - 7y = 6$

    $5x - 8y = -4$

43. $x = y - 1$

    $x + 4y = 4$

44. $x + y = 3$

    $2x - y = 6$

45. $x - 3y = 6$

    $3x - y = 2$

46. $3x - y = -12$

    $2x + 8 = y$

47. $4x - 5y = -4$

    $3x = 2y - 3$

48. $y = x$

    $3x + y = 0$

49. $x + y = 0$

    $x - 2y = 0$

50. $y = -2x$

    $3y + x = 0$

51. $2x - 5y = 0$

    $3x = 2y$

52. $x - y = 0$

    $3y = 2x$

53. $x = 6$

    $x = 3$

54. $x = -5$

    $y = 4$

55. $3x = 12$

    $4y = -8$

56. $8x = -16$

    $5y = -20$

57. $-2x = 6$

    $-8y = -24$

Solve:

1. $x - y = 4$
   $x + y = 0$

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

3. $5a - b = -13$
   $2a - b = -7$

4. $m + 6n = 19$
   $m - 2n = -13$

5. $8r + 6s = -54$
   $3r - 6s = -12$

6. $2s + 3t = 13$
   $4s + 3t = 5$

7. $8r - 7d = 69$
   $6r - 7d = 57$

8. $9x + 10y = 32$
   $-3x + 10y = 56$

9. $-5x - 8y = 26$
   $-7x + 8y = -2$

10. $4x + y = 8$
    $x - 5y = 2$

11. $6x - 4y = 9$
    $2x - 8y = 3$

12. $7x + 2y = 11$
    $5x + 3y = 7$

13. $9x + 4y = -5$
    $8x - 5y = 9$

14. $10x + 6y = 21$
    $8x + 14y = 18$

15. $-4x + 12y = 15$
    $6x - 8y = -3$

16. $3x - 6y = 10$
    $-x + y = 5$

17. $2x + 7y = 12$
    $5x - 3y = -4$

18. $12x - 14y = 7$
    $9x + 21y = -5$

Solve and check:

1. $2a - b = 8$
    $a + 2b = 9$

2. $4c + d = 15$
    $c + 4d = 15$

3. $3x + 8y = -6$
    $6x + 4y = -12$

4. $4x + 2y = 12$
    $2x + 6y = -4$

5. $5m + 3n = 39$
    $m - n = 3$

6. $2x - 9y = 40$
    $6x - 3y = 24$

7. $5x - 2y = 3$
    $2x - y = 0$

8. $5x - 2y = -4$
    $3x + 4y = 34$

9. $-4a - 6b = 36$
    $2a - 9b = 78$

10. $2x + 3y = 5$
    $3x - 2y = 1$

11. $3x + 5y = 27$
    $2x + 3y = 17$

12. $5x - 3y = -2$
    $3x - 4y = -10$

13. $7a + 4b = 51$
    $6a - 5b = 10$

14. $4x - 3y = -7$
    $3x + 7y = 4$

15. $6x + 2y = 18$
    $5x - 9y = 47$

16. $11c - 4d = 74$
    $9c - 7d = 68$

17. $5r - 3s = 12$
    $8r - 2s = 8$

18. $-4b + 6c = 2$
    $3b - 7c = 6$

19. $4x + 6y = 10$
    $10x - 8y = 2$

20. $12x - 16y = 20$
    $8x + 6y = 30$

Solve and check: (Continued)

21. $10a + 4b = 28$

      $6a + 18b = 48$

31. $9x - 2y = 10$

      $3x + 6y = -10$

22. $20m - 6n = 72$

      $8m - 4n = 32$

32. $5x + 7y = 4$

      $9x + 3y = 4$

23. $8a + 6b = 4$

      $6a - 10b = -26$

33. $x - 3y = 0$

      $4x - 2y = 5$

24. $9b - 4d = 30$

      $6b + 14d = -30$

34. $3x - 4y = 3$

      $12x - 27 = 5$

25. $4x - 12y = -20$

      $6x + 15y = 102$

35. $6x - 4y = 0$

      $5x + 2y = 4$

26. $12x - 9y = 21$

      $10x - 6y = 10$

36. $7x + 5y = 15$

      $5x - 9y = 17$

27. $21x + 12y = -99$

      $14x - 8y = -18$

28. $2x + 4y = 4$

      $x - 2y = 0$

29. $6x - 4y = -6$

      $3x + y = 3$

30. $4x + 7y = 19$

      $6x - 2y = -9$

To find the common solution of each of the following systems of equations, which variable, x or y, is easier to eliminate?

1. $5x + 9y = 16$

   $2x + 9y = 10$

4. $x + 4y = 5$

   $2x - 4y = 6$

2. $3x - 5y = 8$

   $3x - 6y = 5$

5. $x - y = -15$

   $x + y = 7$

3. $7x - 8y = 9$

   $-7x + y = -3$

6. $4x - 5y = 10$

   $4x + 5y = 21$

Solve and check:

1. $x + y = 12$

   $x - y = 2$

8. $r + s = 10$

   $r - s = 0$

2. $x - y = 5$

   $x + y = 11$

9. $d - t = 0$

   $d + t = 6$

3. $m - n = 4$

   $m + n = 6$

10. $3x + y = 10$

    $4x - y = 4$

4. $c + d = 13$

   $c - d = 5$

11. $5b - c = 33$

    $7b + c = 51$

5. $x - y = -1$

   $x + y = 9$

12. $x + 2y = 15$

    $x - 2y = -9$

6. $a + b = 8$

   $a - b = -4$

13. $4x - 5y = -2$

    $2x + 5y = 14$

7. $u - v = -3$

   $u + v = 5$

14. $a + 3b = 8$

    $6a - 3b = 27$

Solve and check: (Continued)

15. $5b - 6d = -1$
      $3b + 6d = 9$

16. $12x - 9y = 12$
      $x + 9y = 79$

17. $6r - 7s = 0$
      $4r + 7s = 70$

18. $4m + 3n = 15$
      $4m - 3n = 9$

19. $2x + y = 10$
      $x + y = 6$

20. $2c + d = 13$
      $5c + d = 28$

21. $5x + 3y = 30$
      $3x + 3y = 18$

22. $4x + 5y = 41$
      $7x + 5y = 53$

23. $3a + 2b = 17$
      $9a + 2b = 35$

24. $7m + 4n = 80$
      $6m + 4n = 72$

25. $-8b + 7c = 4$
      $4b + 7c = 40$

26. $5x + 8y = 23$
      $-3x + 8y = -1$

27. $2x + 9y = 47$
      $-5x + 9y = 40$

28. $3x - y = 5$
      $x - y = 1$

29. $2m - n = 2$
      $7m - n = 12$

30. $4a - 2b = 2$
      $3a - 2b = -1$

31. $9x - 5y = -22$
      $6x - 5y = -28$

32. $5c - 4d = 0$
      $8c - 4d = 12$

33. $4x - 7y = 12$
      $8x - 7y = 24$

34. $-5m - 8n = -35$
      $m - 8n = -35$

Solve and check: (Continued)

35. $4y - 6x = 12$

  $-2y - 6x = -24$

45. $8a + 6b = 56$

  $-8a - 4b = -48$

36. $-7r - 10s = -96$

  $-9r - 10s = -112$

37. $x + 5y = 7$

  $x + 3y = 5$

38. $b - 3c = -2$

  $b - 4c = -4$

39. $3c + 4d = 26$

  $3c - 5d = 8$

40. $-2y - 3z = -13$

  $-2y + 6z = 14$

41. $-5r + 4s = 0$

  $-5r + 6s = 10$

42. $-4m - n = -16$

  $-4m - 5n = -32$

43. $x + 3y = 9$

  $-x + 7y = 21$

44. $-9b - 4c = -71$

  $9b - 2c = 59$