

Selected Answers

Page 9

1. $L = J + 14$ 3. $\frac{x}{2} + 12$ 5. $x^2 - y^2$ 7. $J = 3R$ 9. $\frac{x}{2} + 7$ 11. $F = M - 5$ 13. $B = 25Q + 10D$ 15. $2x + 3y$ 17. $P = J + 30$
19. $E + A = 56$ 21. $2(x + y)$ 23. $3(x - y)$ 25. $3x + \frac{x}{3}$ 27. $G = 4H$ 29. $\frac{x}{2} > \frac{x}{3}$ 31. $F = 2J$ 33. $2x + 7 = 5$ 35. $\frac{x}{y} = 10$
37. $x^3 - x^2$ 39. $B \geq 21$ 41. $4x + 5x$ 43. $\sqrt{(x + y)^2}$ 45. $2x + 6$ 47. $\sqrt{2x}$

Page 10

1. The sum of three numbers. 3. Twice a number reduced by seven. 5. t is greater than s . 7. The difference of two numbers is eight. 9. The sum of three odd (or even) consecutive numbers. 11. Four times the difference of two numbers. 13. The product of three numbers. 15. The addition of three consecutive odd numbers. 17. The addition of two squared numbers. 19. Four times a number. 21. Five increased by a number. 23. An amount that is "at most" a number. 25. The product of a number and the number reduced by four. 27. An angle equal to another angle. 29. David is taller (or older) than John and John is taller than Carlos. 31. Eight reduced by a number. 33. A number reduced by five. 35. One-third of a number increased by twelve. 37. Pete is ten years older than Joan. 39. The difference between two numbers. 41. One-sixth of a number decreased by five. 43. Carlos is fourteen years younger than Mark. 45. Five times the difference of two numbers. 47. The difference of four times a number and six times the number. 49. A number decreased by twelve. 51. Twice a number increased by fifteen. 53. The square root of a number increased by seven. 55. The difference of two cubes. 57. One-fourth a number increased by eight. 59. A number is "at most" negative nine. 61. Five times a number increased by three times another number, increased by eight times another number. 63. Fifteen nickels, plus one dime, plus twenty quarters is five dollars and eighty-five cents. 65. One-fourth the difference of two numbers. 67. The fifth power of a number, increased by thirty-four. 69. A number greater than another number.

Page 12

1. 16 3. 24 5. 40 7. 39 9. 4 11. 35 13. 16 15. 35 17. 50 19. 46 21. 13 23. 58 25. 4 27. 9 29. 78 31. 39 33. 25 35. 32 37. 44 39. 101 41. 80 43. 97 45. 14 47. 22 49. 53 51. 28 53. 36 55. 25.5 57. 51 59. 8 61. 14 63. 40 65. 0 67. 14.4 69. 38 71. 29

Page 14

1. (A) 10, 12 3. (A) 77, 85 5. (G) 20, 40 7. (A) -13, -17 9. (N) 99, 110 11. (A) -47, -63 13. (A) -13, -18 15. (N) 32, 30 17. (G) 2100000000, 210000000000 19. (G) 256, -1024 21. (G) 567, 1701 23. (A) 10.8, 12 25. (N) 27. (N) 46, 37 29. (G) 35.4375, 53.15625 31. (G) 322102, 3543122 33. (N) 35. (A) 64, 66.5 37. (G) 243, 729 39. (A) 99, 121 41. (G) 20000, -200000 43. (G) 50.625, 75.9375 45. (N) 47. (A) 20, 17 49. (G) 1024, 4096 51. (N) 53. (N) 55. (N) 13, 18 57. (G) 405, 1215 59. (N) 17, 26 61. (A) 350, 380 63. (A) 1.5, 0.5 65. (A) 49, 40 67. (A) -7, -11 69. (A) 32, 37 71. (A) 20, 18.5 73. (A) -3, -12 75. (N) 9, 19 77. (N) 189, 230

Page 16

1. distributive 3. inverse 5. identity 7. commutative 9. commutative 11. associative 13. commutative 15. inverse 17. identity 19. commutative 21. commutative 23. associative 25. distributive 27. identity 29. identity.

Page 19-20

1. $\frac{3}{2}$ 3. \$3.75 5. $\frac{9}{1}$ 7. 400 9. \$4875 11. \$2712.50 13. \$33.75 15. \$63 17. \$273 19. \$187.50 21. 17 23. \$15,840 25. 600 27. \$12,750 29. 60% 31. 1.25 33. 32,240 35. 40 37. \$1165.50 39. 36 41. \$1768 43. \$48.83.

Page 22

1. -6, 2, 8 3. -8, 4, 12 5. -9, -2, 7 7. -8, 8, 16 9. -3, 9, 12 11. -6, 0, 6 13. -4, 8, 12

Page 23

1. 5.5 3. 6.5 5. 2 7. 6.5 9. 3 11. 6 13. 2 15. 1 17. 5.5 19. 3.25 21. 6.25 23. 6.25 25. 7.5 27. 1.5 29. 5.5 31. 8 33. 8 35. 8 37. 7 39. 5 41. 13 43. 4 45. 8 47. 5 49. 9 51. 10 53. 7 55. 11 57. 8 59. 9.5

Page 24

1. $L = 4 + K$ 3. $\frac{x}{3} + 12$ 5. $x - y$ 7. $T = 2J$ 9. Four times a number increased by ten. 11. Twice a number decreased by five. 13. Four times a number decreased by eight. 15. Two times a number is greater than three times another number. 17. The difference of two numbers is twelve. 19. The addition of three consecutive numbers. 21. 137 23. 73 25. 38 27. 5 29. 30 31. (A) 32, 37 33. (A) 31, 28 35. (A) 9.8, 11.3 37. (N) -7, -13 39. (N) 41. (N) 2520, 20160 43. (A) 7.5, 9 45. (N) -21, -27 47. distributive 49. identity 51. distributive 53. inverse 55. 3 57. 1625 59. 6.5 61. 5 63. 5 65. 9

Page 25

1. $R = B + 8$ 3. $\frac{x}{5} - 9$ 5. $2(x - y)$ 7. five times a number increased by twelve. 9. three times a number decreased by seven. 11. twice a number increased by eleven. 13. 3 15. 89 17. 4 19. (A) 23, 27 21. (A) -6, -12 23. (A) 14.8, 19.3 25. commutative 27. identity 29. associative 31. 8.5% 33. \$39,287.50 35. \$600 37. 14 39. 6 41. 11.5

Page 29

1. 13 3. 4 5. 15 7. 25 9. 48 11. -33 13. 69 15. 60 17. 15 19. 89 21. -8 23. -12 25. 85 27. -25 29. -49 31. 29 33. -53 35. -12 37. 75 39. 2 41. 10 43. 32 45. 2 47. -22 49. 47 51. 54 53. -35 55. 46 57. -48 59. -1 61. 132 63. 16 65. -23 67. 127 69. -50 71. -52 73. 91 75. 33 77. 18 79. 120 81. -13 83. -56 85. 120 87. 30 89. 36 91. 63 93. 13 95. -38 97. 89 99. 33 101. -11 103. 25 105. 17 107. 36 109. -36 111. 89 113. 22 115. -27 117. 172 119. 3

Page 31

1. 4 3. -11 5. 8 7. -60 9. -117 11. 8 13. -6 15. 12 17. -1023 19. -40 21. 7 23. -107 25. 5 27. -84 29. -288 31. 7 33. -35 35. 20 37. -136 39. -363 41. 7.5 43. -39 45. 50 47. -495 49. -104 51. 5 53. -88 55. 2 57. -676 59. -536 61. 3 63. -34 65. 17 67. -213 69. -77 71. -39 73. 4 75. -2 77. 10 79. -378

Page 33

1. 10 3. 8 5. 3 7. -6 9. 16 11. 7 13. 4 15. -7 17. 6 19. 16 21. -2 23. -20 25. 32 27. 6 29. 4 31. 3 33. 3 35. 8 37. 3 39. -6 41. 6 43. 6 45. 11 47. -18 49. 4 51. 3 53. 10 55. -8 57. 5 59. 2 61. -3 63. -3 65. 2 67. -6.5 69. 2 71. -9 73. 8 75. 24 77. 4 79. 13 81. 5 83. 32.75 85. -180 87. -14 89. 12 91. 0.65 93. 387 95. 6 97. 2.525 99. -70 101. -8.8 103. -40 105. 10

Page 35

1. 29.4 3. 400 5. 8 7. 86.4 9. 7 11. 18 13. 4 15. 1050 17. 7 19. -1 21. 1068 23. 70 25. 4 27. 3000 29. 3

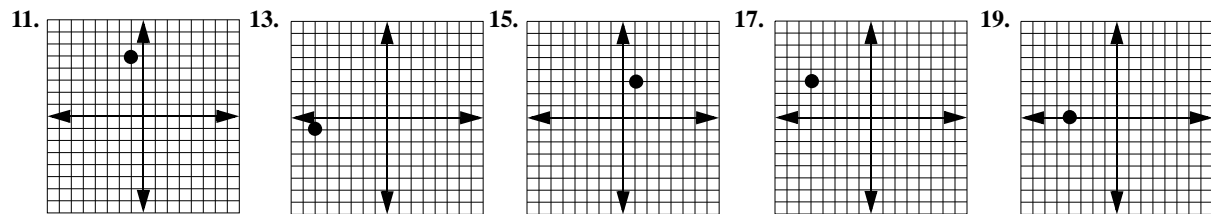
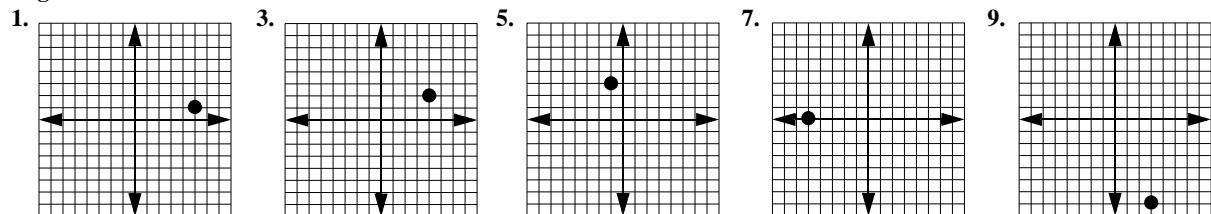
Page 36

1. 40 3. 1 5. -56 7. 215 9. -6 11. -40 13. 77 15. 2 17. -10 19. 17 21. -5.5 23. -7 25. 12 27. 12 29. 240 31. 11 33. -81 35. 11 37. 60 39. -60 41. 5 43. -18 45. 141 47. 64 49. -0.5 51. 7.25 53. $-55\sqrt{3}$ 55. 30 57. -4 59. 4.25 61. -1.875 63. 26 65. -10 67. 13 69. 6 71. 5 73. $7/6$ 75. 12 77. 2 79. 3.8 81. 273

Page 37

1. -2 3. -2 5. -36 7. 202 9. 8 11. -10 13. 335 15. 83 17. 260 19. 4 21. -61 23. 24 25. -108 27. -224 29. -55 31. 8.72 33. 51.4 35. 29.125 37. $-29\sqrt{3}$ 39. $7\sqrt{3}$ 41. -46.875 43. 252 45. 4 47. $0\bar{5}$ 49. -0.9 51. 60

Page 41



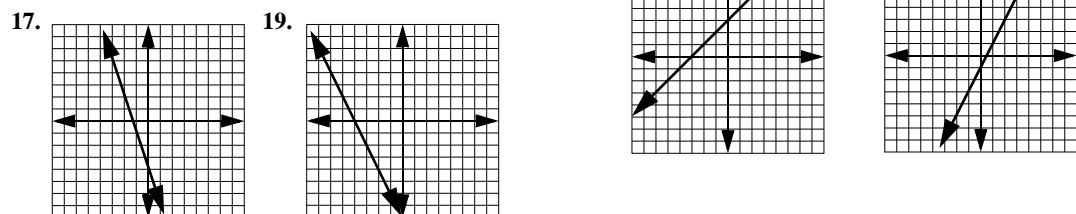
21. Point at (3, -1). 23. Point at (1, 5). 25. isosceles triangle 27. rhombus 29. right triangle 31. isosceles triangle 33. quadrilateral 35. rectangle 37. A(-2,4) II, B(4,-4) IV 39. A(-1,8) II, B(-1,-2) III 41. A(5,-6) IV, B(-5,0) 43. A(-7,-1) III, B(7,3) I 45. A(8,4) I, B(0,-6) 47. A(-1,7) II, B(3,-2) IV.

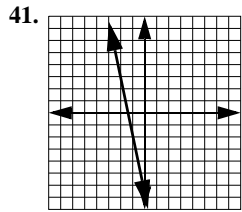
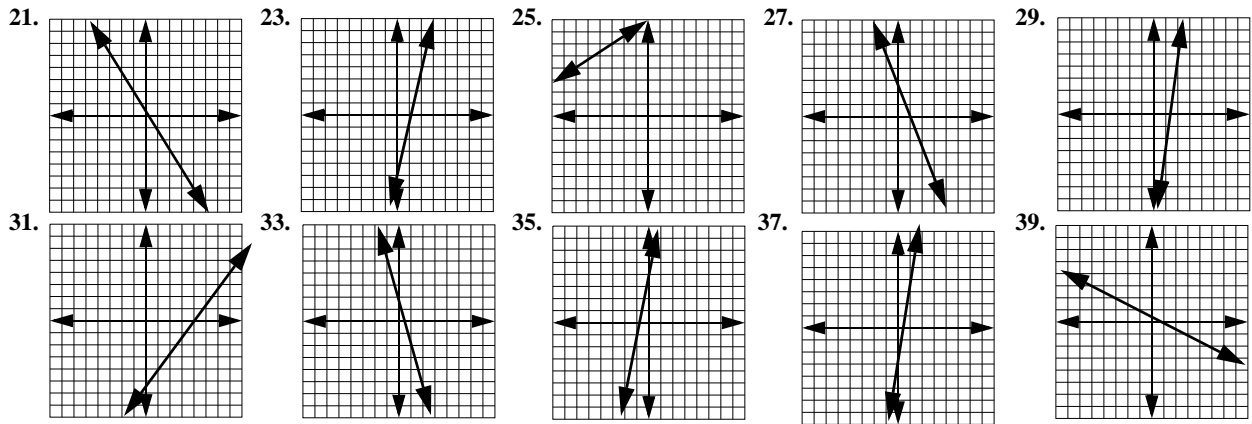
Page 44

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

Page 45

5. $x = -2$ 7. $y = \frac{3}{2}x - 6$ 9. $y = -4x + 6$ 11. $y = x - 2$ 13.





Page 50

1. 3, 5 3. 2.5, -9 5. 1, -8 7. $2/3, -2$ 9. -1, 6 11. 1, 3 13. $-2/5, -3$ 15. 2, 3 17. $-2/3, 2$
 19. -2, -16 21. $2/7, -2$ 23. $y = 3/5x - 4/5$ 25. $y = -4/5x + 9/5$ 27. $y = -5$
 29. $y = 7/4x + 3/4$

Page 51

31. $2x - y = -5$ 33. $x + 4y = 3$ 35. $4x + y = 21$ 37. $y = -1.5$ 39. $5x - 4y = -17$

41. $m = 2/3, b = -2.6$

x	y
1	-2
4	0
7	2
10	4

43. $m = -3, b = 6$

x	y
0	6
1	3
2	0
3	-3

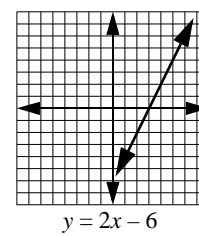
45. $m = 1, b = -7$

x	y
0	-7
1	-6
2	-5
3	-4

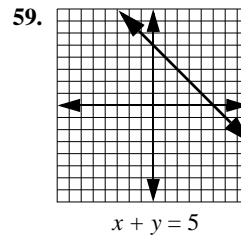
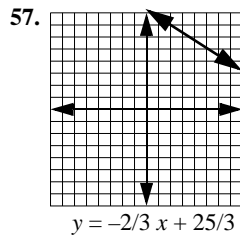
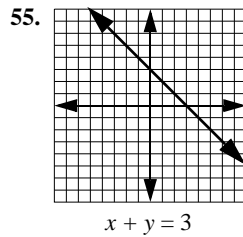
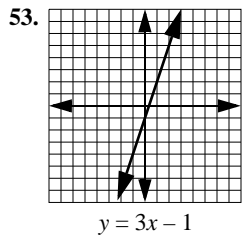
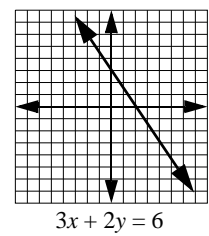
47. $m = -5/3, b = -0.3$

x	y
-5	8
-2	3
1	-2
4	-7

49.



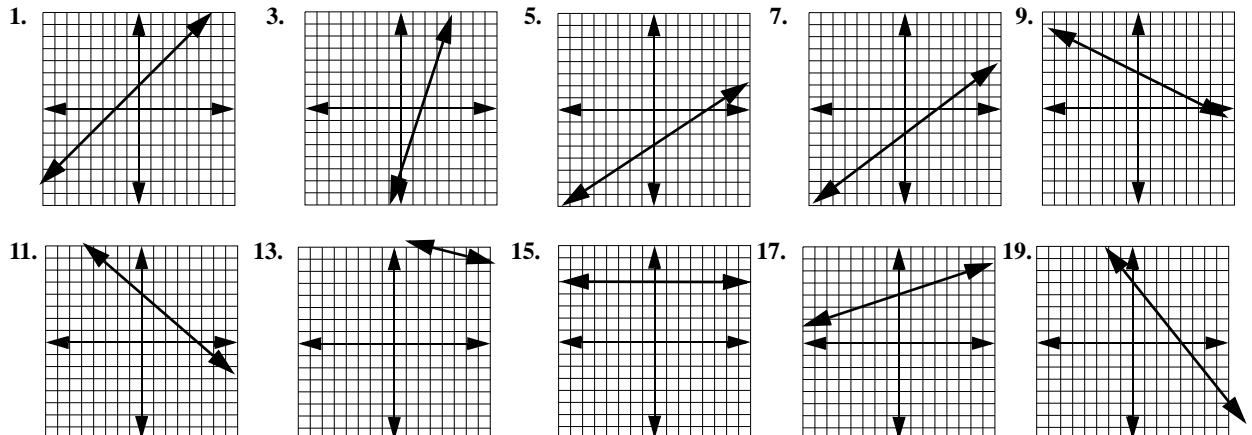
51.

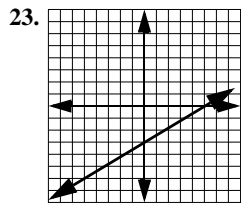
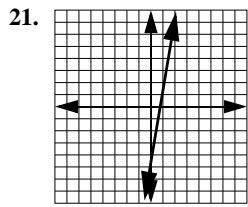


Page 54

1. parallel 3. perpendicular 5. parallel 7. perpendicular 9. parallel 11. parallel 13. parallel 15. neither 17. neither 19. parallel
 21. neither 23. perpendicular 25. $y = -x - 3$ 27. $y = x - 7$ 29. $y = -1/3x$ 31. $y = 6x - 53$

Page 57



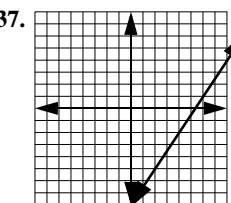
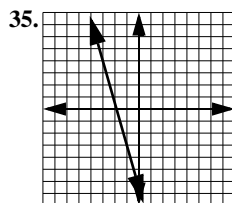
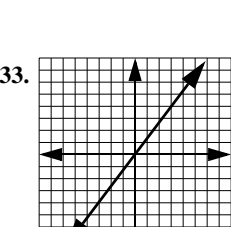
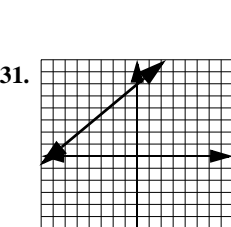
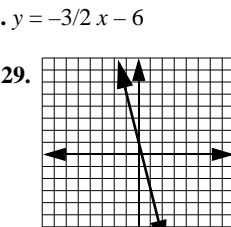
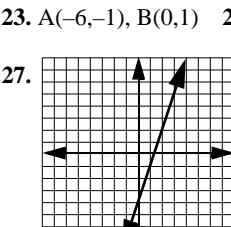
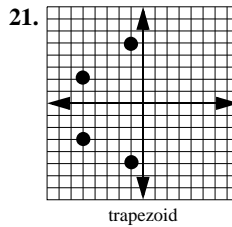
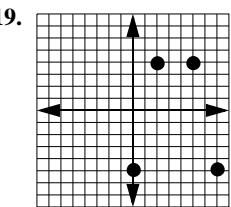
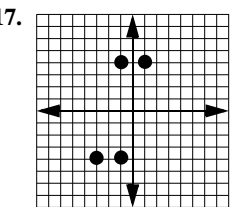
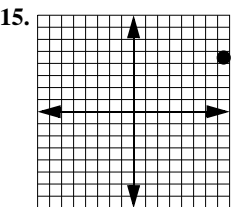
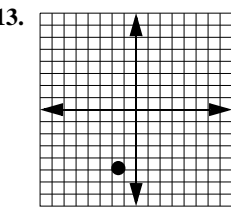
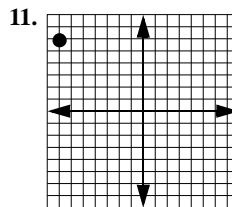
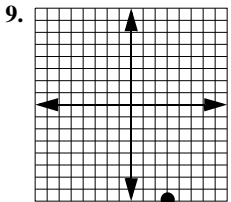
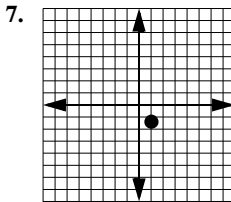
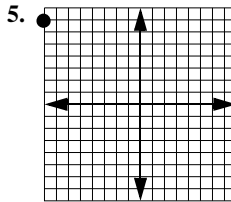
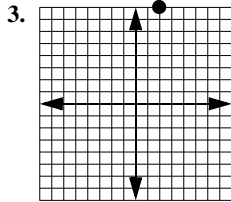
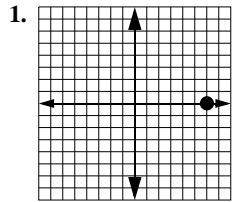


25. $y = 2x - 2$ 27. $y = -2/5 x - 4$ 29. $y = 2/3 x - 5.2$ 31. $y = x + 5$

Page 59

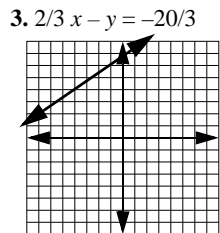
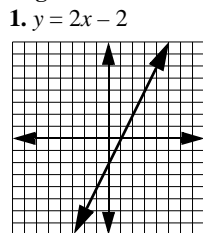
1. $t = 5/3 p$, 61.7 min. 3. $y = 2x + 2000$, \$2,244
 5. $y = 0.05x + 300$, \$628.50 7. $y = 18x + 12000$, \$15,798
 9. $y = 31x + 1500$, \$5,375 11. $y = 19x + 50$, \$525

Page 60

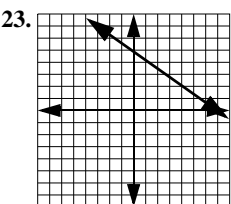
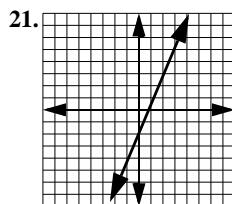
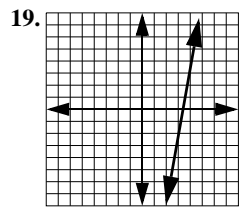
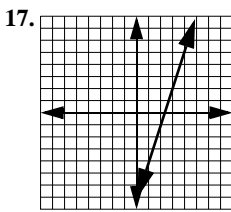
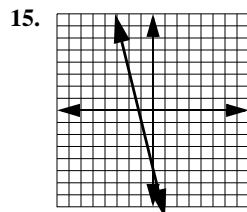


39. -1, 2 41. 0.5, -5 43. 3, -6 45. 2, -7 47. -3, 3/4 49. 5/8, -9/8
 51. -5/6, 1/2 53. $y = -13/11 x + 5/11$ 55. $y = 7/3 x - 17/3$
 57. $y = 4/7 x - 26/7$ 59. $y = -4/5 x - 28/5$ 61. $y = 5/4 x + 3$
 63. $y = 23/13 x + 22.3$ 65. $4x + y = -3$ 67. $2x + 5y = 49$ 69. $3x - 2y = 39$
 71. 1, -4 73. -1/3, -5/3 75. -9/2, 18 77. 5/3, 5/3

Page 61

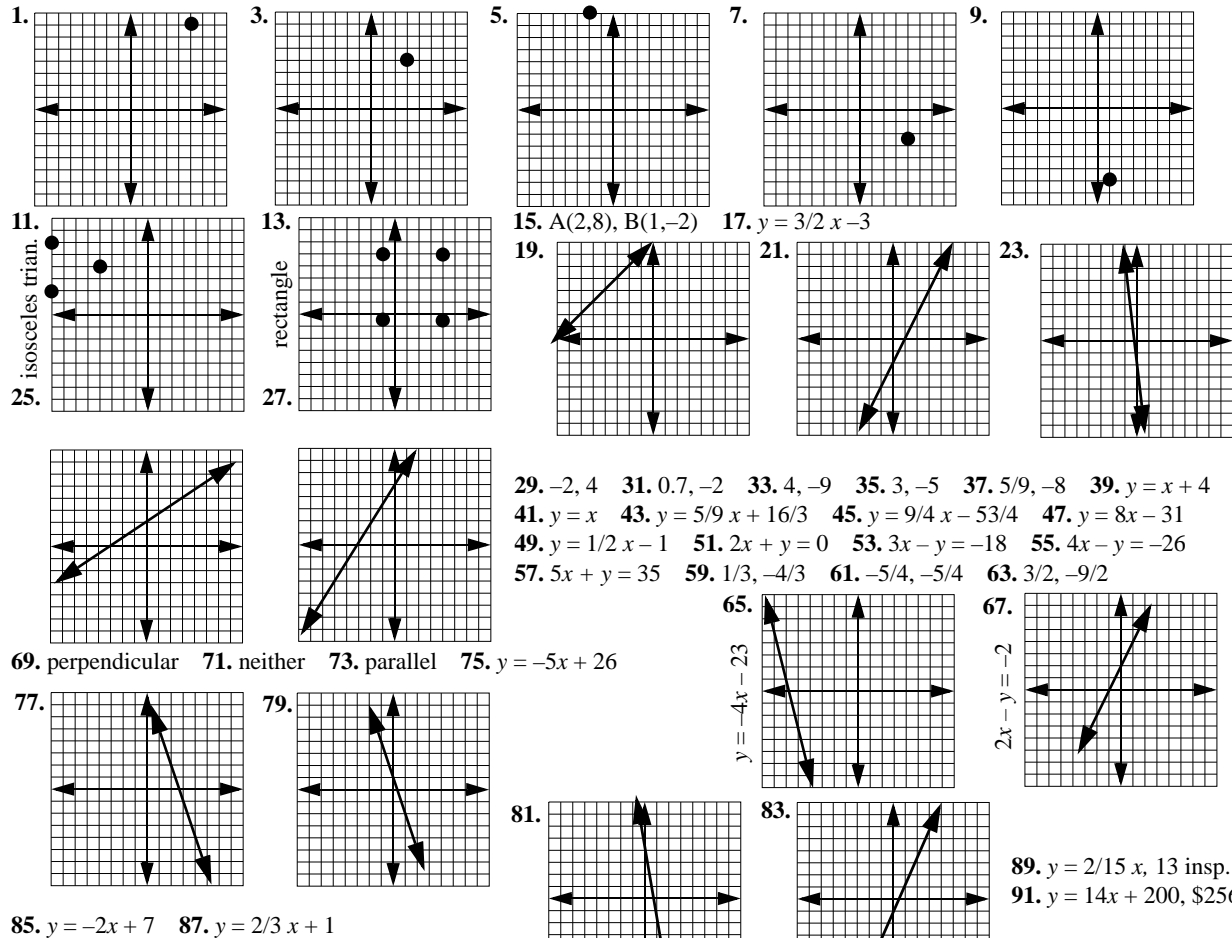


5. neither (identity) 7. parallel 9. parallel 11. $y = 2/5 x - 6$ 13. $y = -4x + 3$

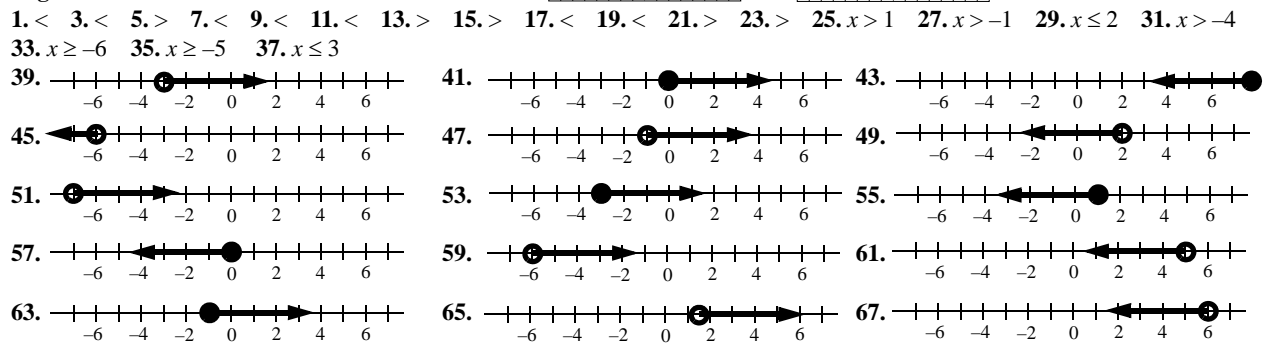


25. $y = 1/2 x - 3$ 27. $y = -3x - 5$ 29. $y = 7x + 450$, \$814

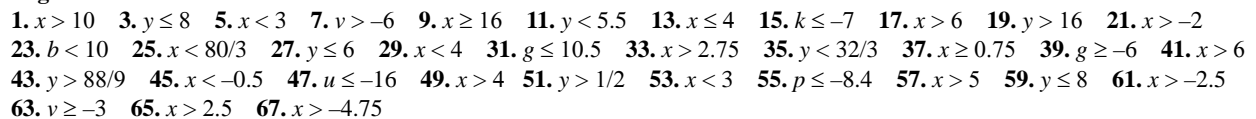
31. $y = 58x + 1250$, \$4,730



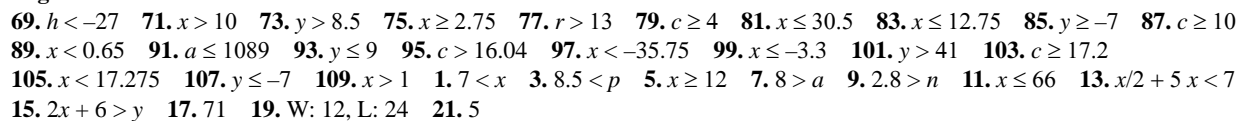
Page 67



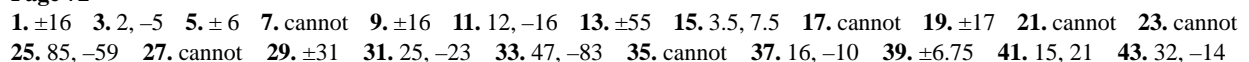
Page 69



Page 70



Page 72

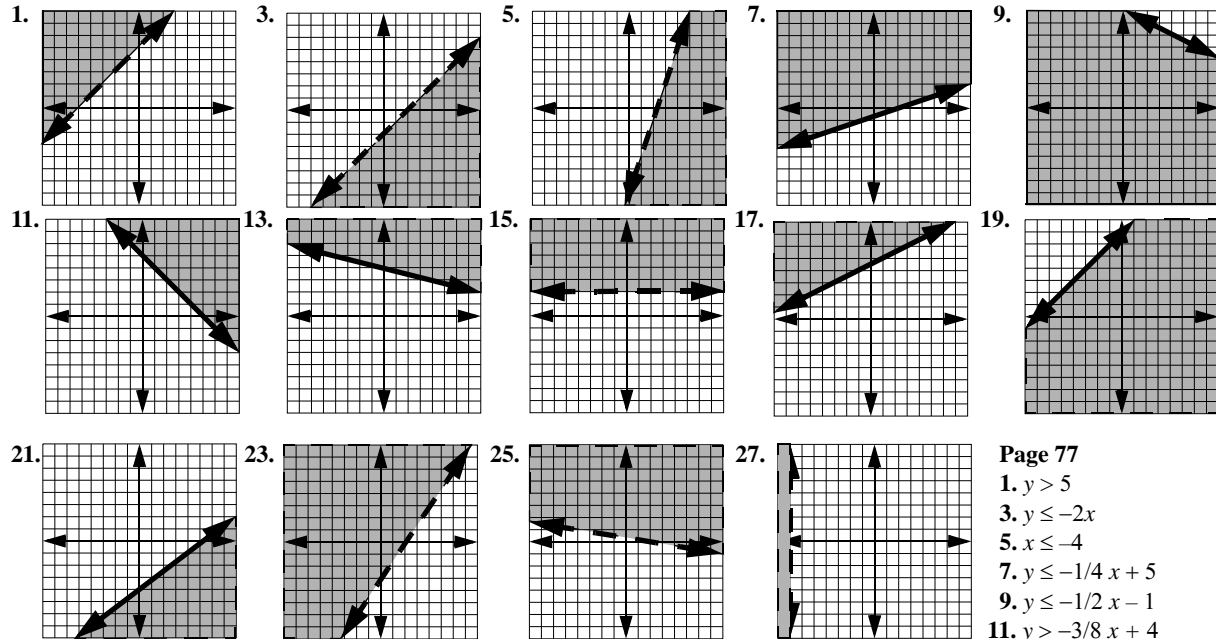


45. $2/3, -10/3$ 47. $-22, 68$ 49. $47, -17$ 51. cannot 53. $-35, 73$ 55. $26, 10$ 57. ± 48 59. $65, -79$ 61. $132, -20$ 63. cannot
 65. $-19, 105$ 67. $12, -2$ 69. cannot 71. $-52, 116$ 73. $91, -41$ 75. $-33, -55$ 77. $-18, -96$ 79. ± 10 81. cannot
 83. $-23, -39$ 85. $8, -2$ 87. $0, -18$ 89. $-34, 52$ 91. $7, 3$ 93. $-10/3, -14/3$ 95. $3, -13$ 97. $79, -9$ 99. $33, -7$

Page 74

1. $x > 93, x < -93$ 3. $a < 3, a > -7$ 5. $x > 6, x < -6$ 7. $x \geq 27, x \leq 7$ 9. $a > 3, a < -3$ 11. $x \geq 12, x \leq -16$ 13. $x > 20, x < -20$
 15. $a \leq 4, a \geq -6$ 17. $x > -2, x < -6$ 19. $x > 8, x < -8$ 21. $b \leq 1, b \geq -1$ 23. $x \geq 4, x \leq -4$ 25. $x \geq 5, x \leq -1$ 27. $x \leq 5, x \geq -2$
 29. $x > 3, x < -4$ 31. $x > 5, x < 4$ 33. $x \leq 5, x \geq 0$ 35. $x \leq 2.5, x \geq -1$ 37. $x < 6, x > 3$ 39. $x < 0, x > -7$ 41. $x > -1.5, x < -5$
 43. $x < 1, x > -4$ 45. $x \geq 2.5, x \leq -4.5$

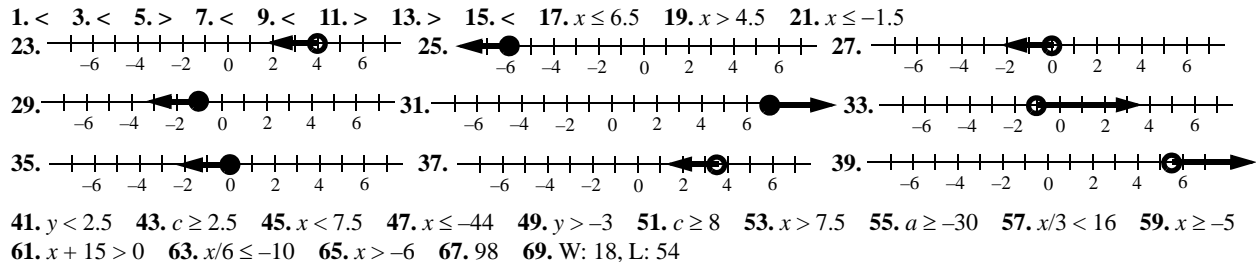
Page 76



Page 77

1. $y > 5$
 3. $y \leq -2x$
 5. $x \leq -4$
 7. $y \leq -1/4 x + 5$
 9. $y \leq -1/2 x - 1$
 11. $y > -3/8 x + 4$

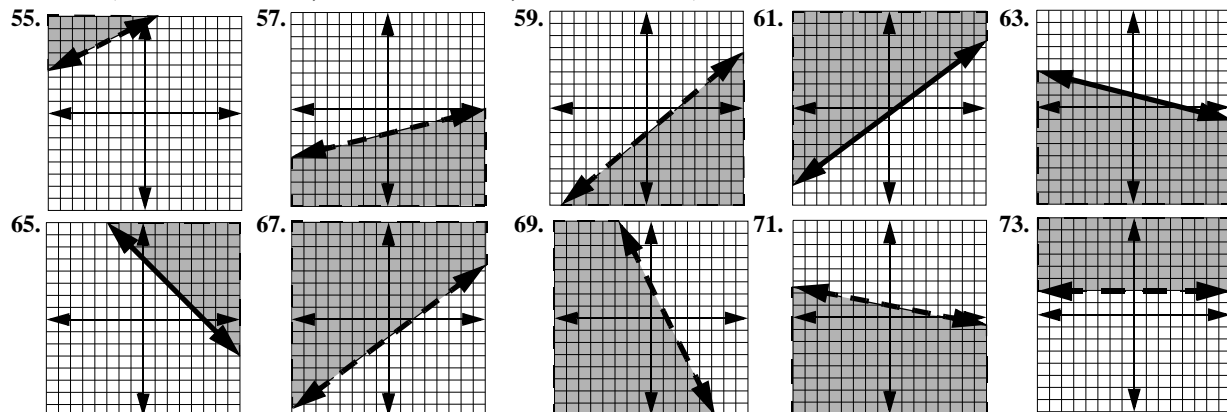
Page 78



41. $y < 2.5$ 43. $c \geq 2.5$ 45. $x < 7.5$ 47. $x \leq -44$ 49. $y > -3$ 51. $c \geq 8$ 53. $x > 7.5$ 55. $a \geq -30$ 57. $x/3 < 16$ 59. $x \geq -5$
 61. $x + 15 > 0$ 63. $x/6 \leq -10$ 65. $x > -6$ 67. 98 69. W: 18, L: 54

Page 79

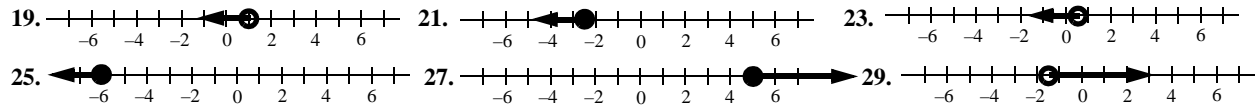
1. ± 19 3. $9, -19$ 5. ± 8 7. cannot 9. ± 13 11. $12, -26$ 13. ± 42 15. $4, -20/3$ 17. cannot 19. cannot 21. $32, -56$
 23. $y \geq 2, y \leq -2$ 25. $s \geq 3, s \leq -3$ 27. $b > -3, b < -9$ 29. $y \leq -4, y \geq -10$ 31. $s > -3, s < -11$ 33. $b \geq -7, b \leq -11$
 35. $y < -2, y > -4$ 37. $s \geq 4, s \leq -10$ 39. $b \leq 3, b \geq -7$ 41. $x < 12, x > 4$ 43. $x < 7, x > -2$ 45. $x \geq -1, x \leq -4$
 47. $x < 5.5, x > -6.5$ 49. $x > 1, x < -4$ 51. $x \leq -1, x \geq -6$ 53. $x < 0, x > -7$



75. $y < 5/8x$ 77. $y < -7$

Page 80

1. $<$ 3. $>$ 5. $>$ 7. $<$ 9. $>$ 11. $>$ 13. $x \leq 0$ 15. $x > -1.5$ 17. $x \leq 2.5$



31. $y < 2$ 33. $c \geq 1.5\bar{7}$ 35. $x > -4$ 37. $y \leq -120$ 39. $y > -2$ 41. $x/2 > 7$ 43. $x \leq -23$ 45. $x + 32 > 4$ 47. $x/5 > -14$

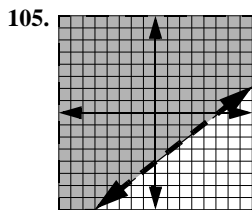
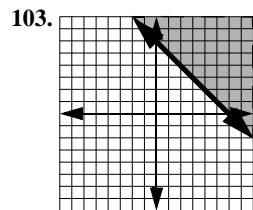
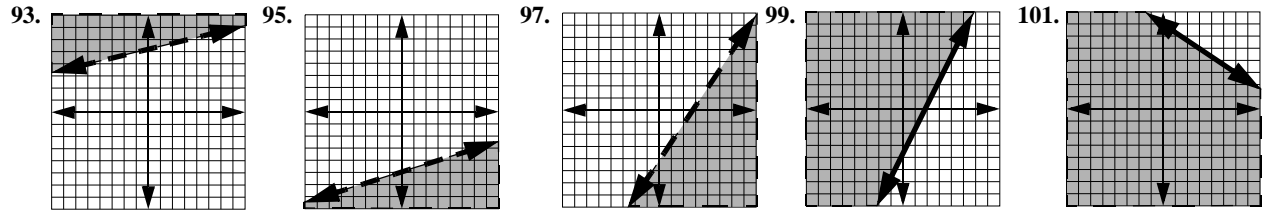
49. 137, 139, 141

Page 81

51. ± 86 53. 15, -25 55. ± 37 57. cannot 59. ± 18.5 61. 19, -37 63. ± 54 65. 10, $-11\bar{3}$ 67. $r \geq 2, r \leq -6$ 69. $t \geq 7, t \leq -9$

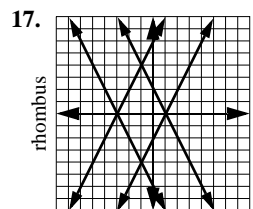
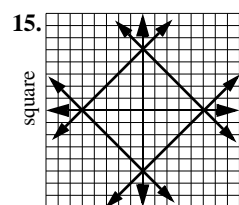
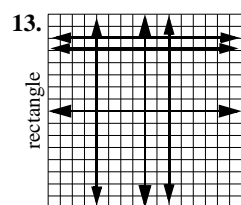
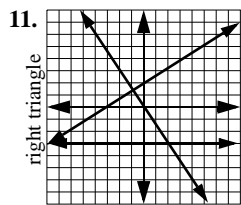
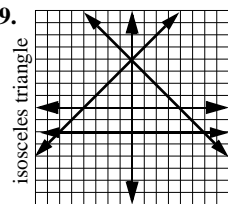
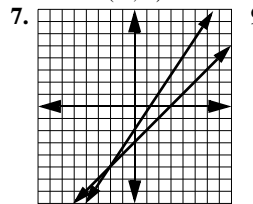
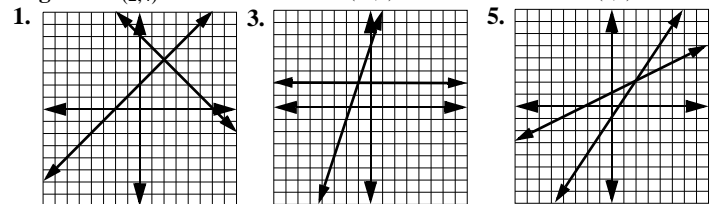
71. $c < -1, c > -5$ 73. $a \leq 3, a \geq -7$ 75. $g > -1, g < -7$ 77. $c \leq 1, c \geq -5$ 79. $z < -2, z > -4$ 81. $x < 2.5, x > -6.5$

83. $x \geq 3.5, x \leq -2$ 85. $x < 1.5, x > -6.5$ 87. $x > -3, x < -4$ 89. $x \leq 4.5, x \geq -5$ 91. $x < 7, x > 0$



107. $y \leq x + 2$ 109. $y \leq 1$

Page 85



Page 87

1. (1,4) 3. (-3,-5) 5. (-1,4) 7. (-4,-5) 9. (1.25,4.75) 11. (1.5,6) 13. (39,8) 15. (1,-4)
17. (1,6) 19. (33,7) 21. (-2,-1) 23. (-0.5,-3.5)

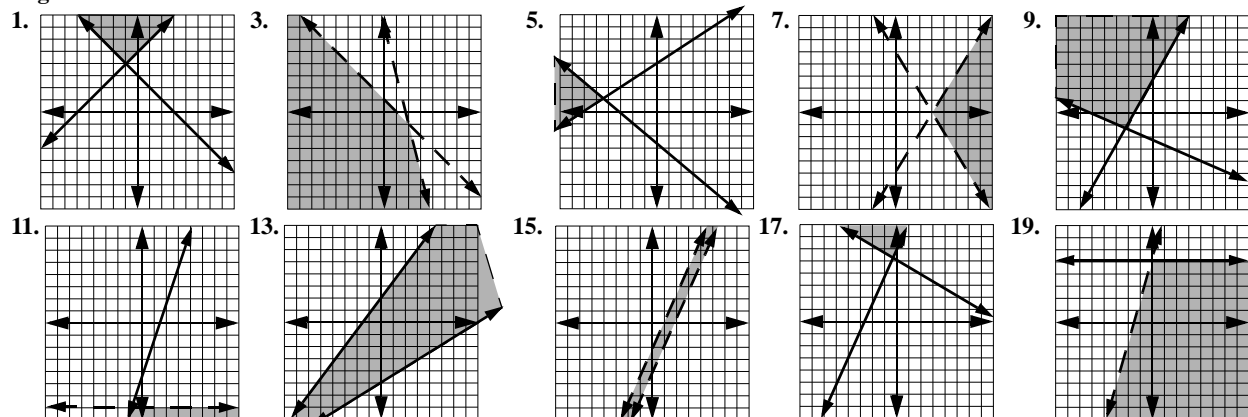
Page 89

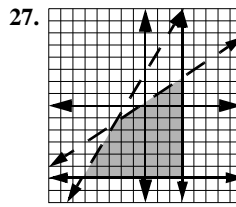
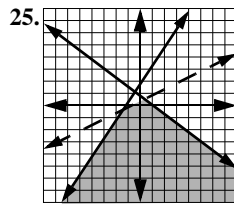
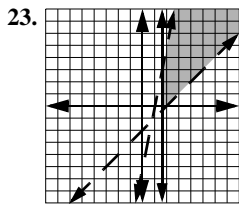
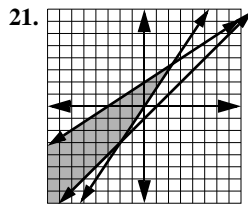
1. (1,3) 3. (2,1) 5. (-8,-7) 7. (2,1) 9. (-2,-0.8) 11. (-37.5,-8) 13. no solution 15. (16/7,0)
17. (0.93,2.85) 19. (3.8,27) 21. (19,11) 23. (2.5,0.5) 25. (1/3,3) 27. (-14.2,-15)

Page 92

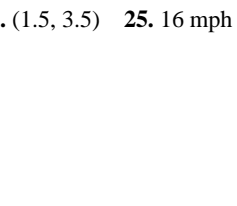
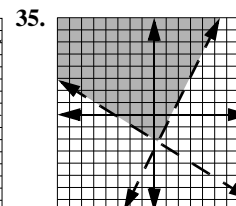
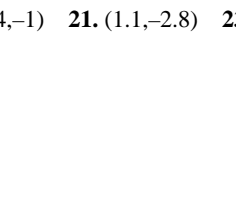
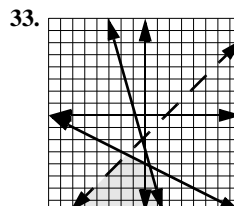
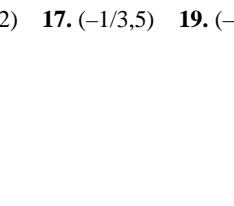
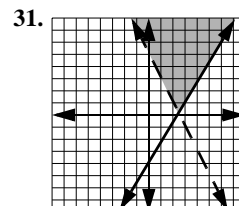
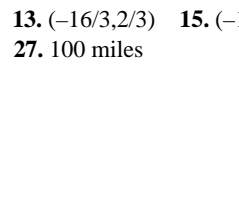
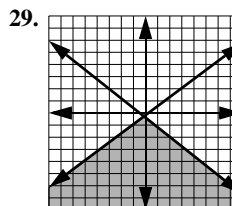
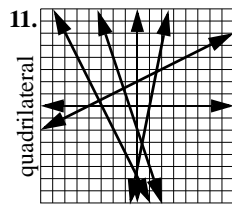
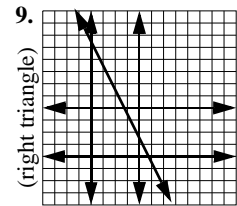
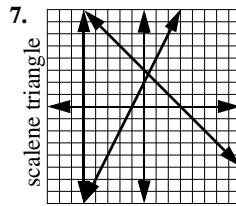
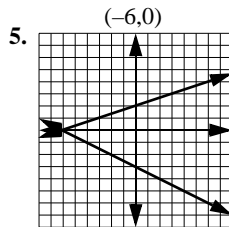
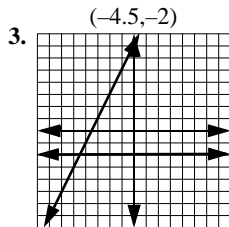
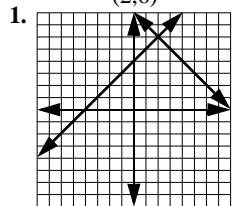
1. 7 man. 11 avo. 3. > 90 mi. 5. 16, 5 7. 9, 2 9. 112, 68 11. 622, 1128
13. 89-\$5, 52-\$10s 15. 75 m. 17. 589.3 mph 19. 60, 75

Page 95

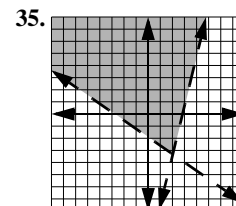
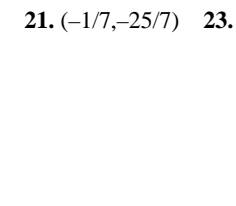
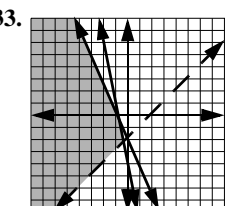
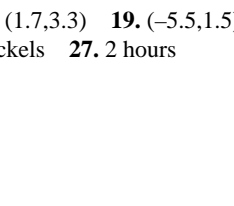
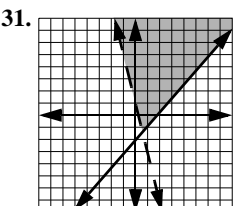
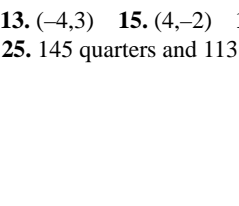
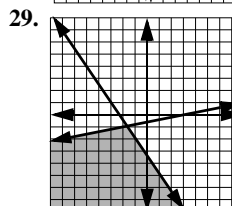
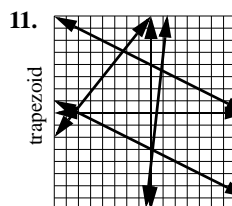
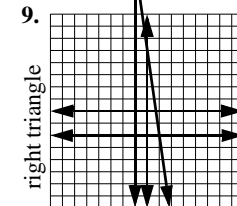
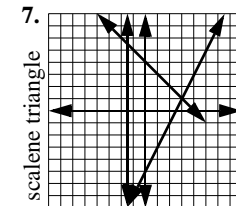
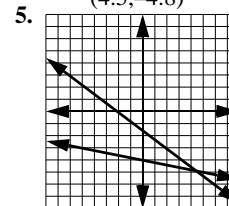
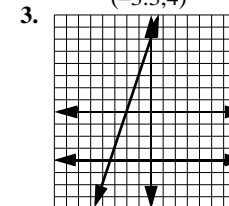
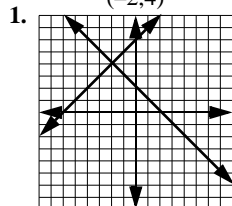




Page 96 (2,6)



Page 97 (-2,4)



Page 101

1. $2x^2$ 3. $8x^4$ 5. $30z^{14}$ 7. $90x^{13}$ 9. $360b^{19}$ 11. $96x^{15}$ 13. $72d^{11}$ 15. $40g^{24}$ 17. $30b^9$ 19. $12x^{14}$ 21. $30s^{10}t^{12}$ 23. $12c^{12}d^{15}$
 25. $48b^{29}$ 27. $9p^{10}q^{24}$ 29. $12a^{10}b^{11}$ 31. $4a^2$ 33. $3xy$ 35. $8c^4$ 37. $3x^2z^5$ 39. $10x^6z$ 41. $4y^7z^3/3$ 43. $2y^2z$ 45. $6m^5np^2$

Page 104

1. trinomial 3. monomial 5. trinomial 7. monomial 9. trinomial 11. polynomial 13. 2nd 15. 11th 17. 11th 19. 15th

21. 16th 23. 10th 25. $\frac{2y^4}{x^8}$ 27. $\frac{1}{3a^2b^8}$ 29. $\frac{y^5}{3x^3}$ 31. $\frac{b^3}{2a^6c^4}$ 33. $3a^5b^5c^7$ 35. $\frac{-7y^8}{x^4z^3}$ 37. $\frac{-2x^2z^3}{y^4}$ 39. $\frac{m^3p^7}{3n}$ 41. $\frac{-1}{6x^{11}y}$

43. $\frac{cd^{18}}{3}$ 45. $\frac{2x^6}{9y^{12}z}$ 47. $\frac{-8z^3}{5x^2}$ 49. $\frac{2m^{16}}{7p^{18}}$ 51. $\frac{-x^3y^{13}}{8}$

Page 106

1. $7x^2+7y^2-3z^2$ 3. $-6a^3+11b^4+12c+8$ 5. $10x-6y^3+7z^5+7$ 7. $3p+21q^3-6r^2$ 9. $-79x^2+3y^3-23z^4$ 11. $5x^2+4y^3+y^2-7z^2+6$ 13. $28d^2-10f$ 15. $6x^2+5y^3+5y^2-51z^2$ 17. $3a^3+10b^4+20c$ 19. $3x-14y^3+7z^5+79$ 21. $-70p+14q^3+55r^2$ 23. $-2x^2-24y^3-64z^2$ 25. $5x^2+4y^3+4y^2-26z^2+14$ 27. $10d^2+e^2+5f$ 29. $40x^2+18y^2-39z^2$ 31. $-2a^3+11b^4+31c+8$ 33. $3x-60y^3+31z^5+28$ 35. $-4p+6q^3+r^2$ 37. $-2x^2-8y^3-8z^4-6z^2$ 39. $19x^2+24y^3+7y^2-25z^2+5$ 41. $26d^2-7e^2-2f$ 43. $8x^2+5y^3+25y^2-42z^2$ 45. $-4a^3+10b^4+5c$

Page 107

1. $-x^2-y^2+2z^2$ 3. $18a^3-b^4+6c+7$ 5. $17x-11y^3+13z^5-8$ 7. $20p+8q^3-24r^2$ 9. $8x^2-16y^3+2z^4$ 11. $-13x^2-y^3+2z^2-8$ 13. $8d^2-10e^2-11f$ 15. $19x^2-y^2+28z^2$ 17. $26a^3-54b^4+8c$ 19. $24x-16y^3+z^5-17$ 21. $132p+75q^3-65r^2$ 23. $-96y^3-28z^2$ 25. $-33x^2+19y^2-4z^2-4$ 27. $-24d^2-80e^2-73f$

Page 110

1. $2x^3+4x^2+5x$ 3. $9x^5+7x^4+3x^3$ 5. x^2+5x+6 7. $x^2+2xy+y^2$ 9. $6x^2-xy-y^2$ 11. $x^2-2xy+y^2$ 13. x^2-y^2 15. $3x^2+20xy-7y^2$ 17. $3y^2-19xy+6x^2$ 19. $5s^2-43st+24t^2$ 21. $5a^2+7ab-24b^2$ 23. $16x^2-9y^2$ 25. $7x^2-113xy+120$ 27. $100x^2+425x+100$ 29. c^2-d^2 31. $126x^2-41xy+3y^2$ 33. $12s^2+62st-60t^2$ 35. $36c^2-150cd+66d^2$ 37. $27p^2+42pq-80q^2$ 39. $18x^2-325xy+18y^2$ 41. $6x^4+2x^2-28$ 43. $5x^3+37x^2-74x-18$ 45. $-4x^4-5x^3+3x^2+6x$ 47. $a^6+2a^5+2a^4+a^3$ 49. $-x^4+5x^3+49x^2-78x-30$ 51. $3c^6+13c^5-12c^4+7c^3-c^2$

Page 111

1. $3a^2$ 3. $10a^4$ 5. $96b^{14}$ 7. $96c^{13}$ 9. $2.16b^{17}$ 11. $0.48x^{28}$ 13. $20a^{29}$ 15. $24g^{27}$ 17. $0.4b^9$ 19. $6x^{19}$ 21. $0.2s^{12}t^{11}$ 23. $6.4c^{16}d^{12}$ 25. $2a^3$ 27. $7x^2y^6$ 29. $25c^4$ 31. $\frac{9yz^8}{2}$ 33. $\frac{40x^2yz^4}{11}$ 35. $3x^8z$ 37. trinomial 39. binomial 41. monomial 43. binomial 45. binomial 47. trinomial 49. binomial 51. 4th 53. 14th 55. 9th 57. 6th 59. 6th 61. 12th 63. 10th 65. 9th

Page 112

1. $\frac{2a^7}{b^9c^4}$ 3. $\frac{1}{12x^4}$ 5. $\frac{1}{2c^6d^2}$ 7. $\frac{1}{5x^6y^{12}z^2}$ 9. $\frac{-7y^5}{xz^4}$ 11. $\frac{4}{x^8y^{10}z^{15}}$ 13. x^2+x+7y^5+9z-9 15. $-11a+57b+4c$ 17. $3x^2-5y-23z^2+17$ 19. $68x+31y^3-3z^2$ 21. $-8r^2-17s-13t^4$ 23. $16b^2-7c^2-16c-23$ 25. $5x+6y^2+7z^2+13$ 27. $x^2+x+10y^5+4z+1$ 29. $-2a+2b-c$ 31. $-x^2+17x+10y^5+2z-9$ 33. $5a-14b+21c$ 35. $7x^2-5y-14z^2-18$ 37. $2x+7y^3-12z^2$ 39. $-10t^2-6s+6t^4$ 41. $-2b^2-4c^2+c+39$ 43. $2x+6y^2-z^2+25$ 45. $-2x^2+7x-6y^5+4z-7$ 47. $24a^2-44ab+12b^2$ 49. $15a^2+a-6$ 51. $104a^2-153ab-26b^2$ 53. $x^3+2x^2-241x+238$ 55. $16x^3-16x^2+35x-8$ 57. $-12y^5-122y^4-132y^3-7y^2$ 59. $25x^4+90x^3-53x^2-126x+49$ 61. $-9y^4-9y^3+25y^2+11y-14$ 63. $22a^2-89ab+4b^2$ 65. $16a^2+32a-48$ 67. $8a^2+8ab-16b^2$ 69. $6x^3+2x^2+24x+28$ 71. $28x^3-25x^2+38x-5$ 73. $-2y^5-17y^4-25y^3-28y^2$

Page 113

1. $8x^2$ 3. $28x^6$ 5. $192y^{18}$ 7. $3b$ 9. $5a^2b^3$ 11. $40cd/3$ 13. trinomial 15. binomial 17. 8th 19. 15th 21. $\frac{4x^6}{y^5z}$ 23. $\frac{1}{3a^{15}}$ 25. $\frac{h^6}{3g^7}$ 27. $a^2+a+6b^5+10c-4$ 29. $-29x+44y-23z$ 31. $-4x^2-18y-46z^2+39$ 33. $-a^2+15a+6b^5+2c-15$ 35. $a-37b+32c$ 37. $8a^2-41ab+36b^2$ 39. $14a^2+26a-48$ 41. $121a^2-16b^2$ 43. $x^3-8x^2-53x+60$ 45. $49x^3-84x^2+74x-99$

Page 117

1. $3x(x^2+2x+4)$ 3. $4xy(3x^2y^2-2xy+1)$ 5. $2x^3(x^3+2x^2-3x+4)$ 7. $z^3(1+z+z^2+z^4)$ 9. $3ab(a^3b^3+2a^2b^2-3ab-4)$ 11. $6xyz(x^3y^3z^3-2x^5y^3z^2-3x^5y^3z^2+4)$ 13. $xyz(3x^5y^2z^5+5x^6y^2z^4-4x^2y^2z^2+8)$ 15. $5(x^8y^7z+x^5y^4z^3-3x^4y^3z^2-7)$ 17. $5x^2y^3z^3(x-3x^3y+2y^6z^5+y^2z^4)$ 19. $3x^2y^2z(7x^4y^4z^6-3xz^4+2x^5y^5z^6-y)$ 21. $3(2x^7y^7z^7+3x^8y^7z^6-3x^5y^4z^{11}+6)$ 23. $10y^3z^4(4x^2-3x^5y^2z+2x^5y^4z^6-y^4z^4)$ 25. $6(4x^3y^3z^3+2x^9y^8z^7+3x^2y^3z^4-1)$ 27. $x^4y^5z^6(1+x^3y^2z-x^3y^3z^3+x^2y^2z^2)$ 29. $4x^8y^6z^2(x^4y^6z^{10}-4)$ 31. unfactorable 33. $3x^3y^4z^3(2xy^4+3x^4y+4x^3y^3z^5+5z^2)$ 35. $5(x^3y^4z^9+x^3y^8z^7+xy^3z^4-1)$ 37. $2xyz(4y^4+8xz^2-7x^3y^4z^3+14xy^4z^7)$

Page 119

1. $(x+2)(x-2)$ 3. $(x+5)(x-5)$ 5. $(3p+2)(3p-2)$ 7. $(3x+y)(3x-y)$ 9. $(5x+7y)(5x-7y)$ 11. $(x+4y)(x-4y)$

13. $25(x+2)(x-2)$ 15. $(6x+5y)(6x-5y)$ 17. $2(2x+5y)(2x-5y)$ 19. $(6x+y)(6x-y)$ 21. $(7x+3y)(7x-3y)$ 23. $3(9x^2+16y^2)$ 25. $(x+10)(x-10)$ 27. $(2x+3y)(2x-3y)$ 29. $4(3s+2t)(3s-2t)$ 31. $2(9x^2+25y^2)$ 33. $3(2u+5v)(2u-5v)$ 35. $(5x+1)(5x-1)$ 37. $(7a+b)(7a-b)$ 39. $4(a+6b)(a-6b)$ 41. $3(2x+3y)(2x-3y)$ 43. $2(3w+8z)(3w-8z)$ 45. $(5x+2)(-5x+2)$ 47. unfactorable 49. $-3(3x+4)(3x-4)$ 51. $(1+2y)(1-2y)$ 53. $2(2x+7)(2x-7)$ 55. $18(x+4y)(x-4y)$ 57. $9(2x+y)(2x-y)$ 59. $2(2c+1)(2c-1)$ 61. unfactorable 63. $10(3c+5d)(3c-5d)$ 65. $6(x+2y)(x-2y)$ 67. $(2x+15y)(2x-15y)$ 69. unfactorable 71. $(x+8)(x-8)$

Page 121

1. $(x+2)^2$ 3. $(y+3)^2$ 5. $(x+10)^2$ 7. $(y-7)^2$ 9. $(y-11)^2$ 11. $(y+13)^2$ 13. $(x-12)^2$ 15. unfactorable 17. $(5x-4)^2$ 19. $4(x-2)^2$ 21. $16(x+2)^2$ 23. $(5x+9)^2$ 25. $(6y-7)^2$ 27. $(x-4y)^2$ 29. $(x+10y)^2$ 31. $(c+5d)^2$ 33. $(m+7n)^2$ 35. unfactorable 37. $(x+11y)^2$ 39. $(2x+3y)^2$ 41. $(4a+9b)^2$ 43. $(5x-8y)^2$ 45. $(7x+6y)^2$ 47. $(9x+5y)^2$ 49. $(2w-15z)^2$ 51. $2(x+2)^2$ 53. $2(y-3)^2$ 55. $2(x+10)^2$ 57. $3(y+7)^2$ 59. unfactorable 61. $7(y+3)^2$ 63. $4(x-4)^2$ 65. unfactorable 67. $2(5y+4)^2$ 69. $8(x-2)^2$ 71. $(0.3b+0.5)^2$ 73. $(1/2y+1)^2$

Page 123

1. $(x+1)(x+2)$ 3. $(x+1)(x+5)$ 5. $(x+5)(x+2)$ 7. $(x+9)(x-5)$ 9. $(x+4)(x-3)$ 11. $(x+5)(x-1)$ 13. $(x+5)(x-3)$ 15. $(a+4)(a+2)$ 17. $(x+4)(x+5)$ 19. $(c+7)(c+3)$ 21. $(r+9)(r+3)$ 23. $(t+8)(t+2)$ 25. $(x+8)(x-1)$ 27. $(x-5)(x-1)$ 29. $(x+3)(x-2)$ 31. $(x-3)(x-7)$ 33. $(d-8)(d-4)$ 35. $(z-8)(z-2)$ 37. $(u-9)(u+1)$ 39. $(k+6)(k-2)$ 41. $(x-6)(x+5)$ 43. $(x-9)(x-4)$ 45. $(x+5)(x-2)$ 47. $(x+12y)(x-y)$ 49. $(a-12b)(a-2b)$ 51. $(c-8d)(c+d)$ 53. $(x-6y)(x+3y)$ 55. $(x-7y)(x+4y)$ 57. $(x-25y)(x-y)$ 59. $(a-10b)(a+4b)$ 61. $(x+15y)(x-2y)$ 63. $(x+15y)(x-y)$ 65. $(x-11y)(x+5y)$ 67. $(x+14y)(x-2y)$ 69. $(x+10y)(x-7y)$

Page 125

1. $(2x+1)(x+4)$ 3. $(3x+1)(x+3)$ 5. $(3x+4)(x+3)$ 7. $(5x-3)(x+3)$ 9. $(3x-4)(x+3)$ 11. $(2x-1)(x+5)$ 13. $(2x-3)(x+5)$ 15. $(3a+4)(a+2)$ 17. $(3x+4)(2x+5)$ 19. $(7c+1)(c+1)$ 21. $3(r+9)(r-1)$ 23. $2(x+1)(2x+3)$ 25. $2(x+4)(x-1)$ 27. $(4x-5)(2x-3)$ 29. $2(5x-4)(x+2)$ 31. $(3x-7)(x-3)$ 33. $(7d-16)(d+2)$ 35. $(25z+16)(z-1)$ 37. $4(8u+3)(u-1)$ 39. $7(k+4)(k-1)$ 41. $10(x-3)(x+1)$ 43. $4(2x-1)(4x+9)$ 45. $2(7x-1)(x+5)$ 47. $12(x+6y)(x-2y)$ 49. $7(a-b)(a-4b)$ 51. $3(5c-8d)(c+d)$

Page 127

1. $(y+5)(y^2+2)$ 3. $(x+2)(x^2+3)$ 5. $(a^2+2b)(3c^2-4)$ 7. $(x+2)(5x^2+3)$ 9. $(7y-3)(2y^2+3)$ 11. $(2a^2+b)(3c^2+1)$ 13. $(y-8)(5y^2+7)$ 15. $(3a^2+2b)(4c^2-5)$ 17. $(2x+1)(2x-1)(3x^2+1)(3x^2-1)$ 19. $(8y^2-9)(y-1)$ 21. $(x^2+3)(x^2-3)(x+2)(x-2)$ 23. $(2x+1)(2x-1)(2x^2+1)(2x^2-1)$ 25. $(3y-5)(2y^2+7)$ 27. $(4x-9y)(16x-1)$ 29. $(4a^2+b)(3c^2+1)$ 31. $(y+4)(y^2+7)$ 33. $(4y+3)(5y^2+6)$ 35. $(x+5y-3)(-x+5y-3)$

Page 128

1. $2a(6a^2+2a+1)$ 3. $4ab(4a^2b^2-7ab+1)$ 5. $2y^3(y^3+2y^2-8y+9)$ 7. $8z^3(2+z+9z^2+3z^4)$ 9. $3a^2b^2(a^2b^2+2ab-3)$ 11. $11a^4b^4c^4(1+abc)$ 13. $2a^4b^4(6+8a^3+9ab^3)$ 15. $(3x+y)(3x-y)$ 17. $10(10x^2-y^2)$ 19. $5(2x+3y)(2x-3y)$ 21. $4(x+3y)(x-3y)$ 23. $5(4x^2+y^2)$ 25. $2(2x+5)(2x-5)$ 27. $2(3x+5y)(3x-5y)$ 29. $(5b+2)^2$ 31. $(4x-1)^2$ 33. $(2y+9)^2$ 35. $16(a-1)^2$ 37. $2(4y+1)^2$ 39. $3(25b^2+20b+9)$ 41. $2(3y+4)^2$ 43. $(a+6)(a+2)$ 45. $(x+3)(x+2)$ 47. $(c+9)(c+2)$ 49. $(r+15)(r+2)$ 51. $(x+11)(x+2)$ 53. $(x+8)(x-3)$ 55. $(2x+7)(x-1)$ 57. $(2x+13)(x-1)$ 59. $(3a+2)(a+9)$ 61. $(6x-1)(x-2)$ 63. $(7c+2)(c+8)$ 65. $3(r-7)(r+1)$ 67. $2(2x+5)(x+2)$ 69. $(z^2+3)(z+1)$ 71. $(x-5)(y^4+2)$ 73. $(a-2)(a^3-b^2)$ 75. $(x+y)(9x+2)$ 77. $(x^2+4)(8x-1)$

Page 129

1. $3x^2(2x^4+3x^2+5)$ 3. $(x-y)^2$ 5. $(x+2)(x+1)$ 7. $2y(3y^2+8y-9)$ 9. $(2x+3y)^2$ 11. $(x-4)(x+3)$ 13. $t^2(t^2+5t-10)$ 15. $(x+y)^2$ 17. $5(x-5)(x+1)$ 19. $r^4(r^3-2r^2-1)$ 21. $3(y-3)^2$ 23. $(x+8)(x+3)$ 25. $5x(5x^2-2)(x+1)(x-1)$ 27. $(3x-5y)^2$ 29. $(x-9)(x-2)$ 31. $-y^2(24y+1)(y+1)$ 33. $(a-3b)^2$ 35. $(a-8)(a-4)$ 37. $7x(x+y+z)$ 39. $(4a+3b)(a-b)$ 41. $(a+5)(a-7)$ 43. $-3z(x+y-7)$ 45. $(4x-7y)^2$ 47. $3(x+10)(x-1)$ 49. $4a(x+y+1)$ 51. $(b^2+3)(b+7)$ 53. $(x+7)(x-3)$ 55. $-8a^2(a+3b-4c)$ 57. $3(2y-9)^2$ 59. $4(x+9)(x+5)$ 61. $-5y(y+x-8)$ 63. $(6x-1)^2$ 65. $(x-5)(x-6)$ 67. $-y^3(w-y-1)$ 69. $(4y+3)^2$

Page 132

1. ± 7 3. ± 12 5. ± 18 7. not real 9. x^2 11. $5 \pm \sqrt{10}$ 13. $20 \pm \sqrt{2}$ 15. not real 17. $10 \pm \sqrt{5}$ 19. $3y^4$

Page 134

1. $x \geq 8$ 3. $x \geq 4.5$ 5. $x \geq 18$ 7. $x \geq 4/3$ 9. $x \geq 1$ 11. $y \geq 2$ or $y \leq -2$ 13. $|y^2|$ 15. $4/5|y|$ 17. $|x-6y|$ 19. $|a|$ 21. $|x+y|$ 23. $|x+4|$ 25. $|5x+9|$ 27. $3|(a-12)^2|$

Page 135

1. $2\sqrt{3}$ 3. $4\sqrt{2z}$ 5. $a^2b\sqrt{bc}$ 7. $5\sqrt{3}$ 9. $5xyz^2\sqrt{10y}$ 11. $m^2n^3\sqrt{n}$ 13. $10\sqrt{2}$ 15. $6b^2c\sqrt{2bc}$ 17. $3abc^4\sqrt{5a}$ 19. $4\sqrt{5}$ 21. $y^4\sqrt{xy}$ 23. $(2x+5)^3\sqrt{2x+5}$ 25. $2x-3$ 27. $6x-17\sqrt{6x-17}$ 29. $3x-5$ 31. $(x+1)^6\sqrt{x+1}$

33. $(2a+9)\sqrt{2a+9}$ 35. $x^2y^4\sqrt{x}$ 37. $(x+2)^4$ 39. $\frac{y^2-4}{5}\sqrt{y^2-4}$ 41. $(4-b)^3\sqrt{4-b}$

Page 136

1. $\sqrt{42}$ 3. $4\sqrt{15}$ 5. $4x\sqrt{2x}$ 7. $\sqrt{15x^2-12x}$ 9. $\sqrt{x^2+x-20}$ 11. $6x^4\sqrt{5y}$ 13. $2a^2b^3\sqrt{70}$ 15. $4ab\sqrt{2ab}$
 17. $9mn^3\sqrt{6mn}$ 19. $20ab^2\sqrt{ab}$ 21. $24x\sqrt{y}$ 23. $9ab^4\sqrt{6a}$ 25. $5a^2b^7\sqrt{3}$ 27. $6a\sqrt{5b}$ 29. $3x^9y^3z^3\sqrt{30xyz}$
 31. $10y^5\sqrt{15}$ 33. $2(x-1)\sqrt{5(x-1)}$ 35. $(x-4)^4\sqrt{42(x-4)}$ 37. $6(x-7)^3\sqrt{2(x-7)}$ 39. $2(x-7)^7\sqrt{14(x-7)}$
 41. $3(x-5)^4\sqrt{5}$

Page 137

1. 5 3. $\frac{2x\sqrt{3x}}{3y^2}$ 5. $\frac{5\sqrt{3x}}{3x}$ 7. 5/2 9. $\frac{\sqrt{a}}{b}$ 11. $\frac{2\sqrt{6x}}{3x}$ 13. $\frac{\sqrt{6}}{2}$ 15. $\frac{\sqrt{30}}{3}$ 17. $\frac{3b\sqrt{10xcd}}{2cd}$ 19. $\frac{\sqrt{30}}{12}$ 21. $\frac{\sqrt{33x}}{3y}$
 23. 3/4 25. $\frac{\sqrt{ab}}{b}$ 27. $\frac{5\sqrt{2y}}{2y}$ 29. $\frac{\sqrt{xyz}}{xz}$

Page 138

1. $17\sqrt{3}$ 3. $4\sqrt{2}$ 5. $2\sqrt{2}$ 7. $27\sqrt{3}$ 9. $42+9\sqrt{7}$ 11. $4\sqrt{y}$ 13. $-17\sqrt{2}$ 15. $-3\sqrt{6}$ 17. 0 19. $157\sqrt{2}$ 21. $45\sqrt{2}$
 23. $15\sqrt{2}$ 25. $\frac{-\sqrt{2}}{2}$ 27. $9\sqrt{3}$ 29. $32\sqrt{15}$ 31. $-4\sqrt{u}$ 33. $-5\sqrt{11}$ 35. $4\sqrt{x-5}$ 37. $\sqrt{xy}(x^2-4xy-y^2)$
 39. $\sqrt{y}(4x^2-x^2y-2y)$ 41. $4c^2a\sqrt{c}$

Page 140

1. 1 3. 17 5. $4.5\overline{1219}$ 7. 13 9. $5.8\overline{17}$ 11. 3 13. 16 15. 1.5 17. 19.4 19. 4 21. 49 23. 4 25. 64 27. 18 29. 81
 31. 4.5 33. 100 35. $13\overline{4}$ 37. 121 39. 13 41. 144 43. $11.8\overline{1}$ 45. 4.5 47. 2 49. $10\overline{13}$ 51. 5

Page 142

1. 13 3. 8 5. 4 7. 17.3 9. 10 11. 13.0 13. 10.8 15. 5.2 17. 19.4 19. 14.3 21. 3.7 23. 7 25. 19.1 27. 200.7
 29. 6.7 31. 1.4

Page 143

1. 8.2 3. 16.5 5. 18.8 7. 10.6 9. 26.1 11. 18.4 13. 35.7 15. 71.8

Page 144

1. ± 8 3. ± 17 5. ± 14 7. $5|y^5|$ 9. ± 17.3 11. ± 21.0 13. ± 26.5 15. $9|y^4|$ 17. $x \geq -9$ 19. $x \geq 0$ 21. all real numbers 23. all real numbers
 25. $|t^3|$ 27. $6/7|x^3|$ 29. $|a-7b|$ 31. $8/3|y^4|$ 33. $6561|c^2|$ 35. $1/8|a^2|$ 37. $13|x^2|$ 39. $9/2|g|$ 41. $36|c|$ 43. $4\sqrt{3}$
 45. $4\sqrt{6z}$ 47. $2a^2b^5\sqrt{5ac}$ 49. $5\sqrt{5}$ 51. $6x^4y^3z^7\sqrt{2y}$ 53. $2m^4n^5\sqrt{17mn}$ 55. $5\sqrt{6}$ 57. $6b^3c^7\sqrt{5}$
 59. $3ab^2c^3\sqrt{7}$ 61. $2y^9\sqrt{10y}$ 63. $2\sqrt{10}$ 65. $6\sqrt{105}$ 67. $4y^2\sqrt{3y}$ 69. $10a^4b^3\sqrt{30a}$ 71. $2a^2b^2\sqrt{30a}$ 73. $3a\sqrt{39b}$
 75. $20x^{11}\sqrt{7x}$ 77. $6c^6\sqrt{2c}$

Page 145

1. $\sqrt{5}$ 3. $\frac{3x^3}{2y^4}$ 5. $\frac{x\sqrt{2y}}{y^4}$ 7. $\frac{3\sqrt{3a}}{2a}$ 9. $\frac{3a\sqrt{ab}}{2b^5}$ 11. $\frac{\sqrt{b}}{b}$ 13. $\frac{\sqrt{30}}{7}$ 15. $\frac{\sqrt{3b}}{b}$ 17. $\frac{\sqrt{21}}{7}$ 19. 0 21. $-4ab\sqrt{ab}$
 23. $\sqrt{b}(5a^2b+5b)$ 25. $4st^2\sqrt{t}$ 27. 49 29. 1/2 31. no answer 33. 4 35. $11.4\overline{2}$ 37. 60.75 39. 14.2 41. no answer 43. 2
 45. 6561 47. 2 49. 8 51. 36 53. 7 55. 11.3 57. 13.0 59. $3\sqrt{3}$ or 5.2 61. $\sqrt{10}$ or 3.2 63. 7 65. 254.6 67. 18.9
 69. 240 71. 19.2 73. 27.2 75. 14.8 77. 19.1 79. 17.7 81. 28.2 83. 15.6 85. 267.9

Page 146

1. ± 9 3. ± 19 5. ± 31 7. $x \geq -2$ 9. $x \geq 0$ 11. all real numbers 13. $|(x+4)^3|$ 15. $3\sqrt{5}$ 17. $2\sqrt{21}g$ 19. $4x^4y^8\sqrt{5xyz}$
 21. $5\sqrt{10}$ 23. $3\sqrt{6}$ 25. $6\sqrt{5}$ 27. $6x^4\sqrt{2x}$ 29. 2 31. $\frac{3x^4\sqrt{2x}}{5y^6}$ 33. $\frac{4x^3\sqrt{3y}}{7y^5}$ 35. $2\sqrt{y-5}$ 37. $-4xy\sqrt{xy}$ 39. 49
 41. 21 43. no answer 45. 24 47. 55.5 49. 25.5 51. 6.1 53. 15

Page 151

1. 3,-4 3. 2,-7 5. 1/4,-4 7. -9/2,-8/3 9. 1/3,-5/2 11. 5/4,-7/5 13. 12.5/3 15. -4,-3 17. -7,2 19. 2,1 21. -7
 23. -6,-4 25. 11,2 27. 18,-2 29. 10,2 31. 11,-2 33. ± 2 35. 1/2,-5 37. 3/2,-5 39. -4/3,-2 41. -4/3,-5/2 43. -1/7,-1
 45. -9,1 47. -3/2,-1 49. -4,1 51. 5/4,3/2 53. 4/5,-2 55. 7/3,3 57. 16/7,-2 59. -16/25,1 61. -3/8,1 63. -4,1
 65. 3,-1 67. -9/4,1/2

Page 154

1. -4,2 3. 1.6,-7.6 5. ± 3.5 7. 4,-9 9. -3,1 11. -5,1 13. 1.5,-5 15. $1/2,-5$ 17. -0.3,-3.7 19. -11.6,-0.4
 21. -16.7,0.7 23. 0.3,-24.3 25. -24.5,0.5 27. -7.7,0.3 29. -6.4,2.4 31. -0.4,-23.7 33. -4.9,1.4 35. -3.1,1.3
 37. -0.6,-6.9 39. 5.9,-0.9 41. -0.6,-7.9 43. 11.0,-0.5 45. -1.4,4.9 47. -5.3,0.8

Page 157

1. 0.5,-8.5 3. 0.4,-6.9 5. 0.5,-3.5 7. 1.1,-12.1 9. 0.1,11.9 11. 5,-4 13. 4.1,-1.8 15. -1.5,4 17. -0.2,-3.6
 19. 0.1,4.1 21. -2.5,3 23. no 25. yes 27. yes 29. yes 31. yes 33. yes 35. yes

Page 160

1. 1.106 3. 19.628 5. 0.004 7. 1277.246 9. 1664012.578 11. 59378.621 13. 2.99×10^{-7} 15. 5822.030 17. 7.8×10^{-8}
 19. 0.381 21. 1538.577 23. 0.064 25. \$247,527.33 and \$112,527.33 27. 886,000 29. \$23,296.79

Page 161

1. 7,-9 3. 2.2,-8 5. $3/8,-12$ 7. -1,-6 9. $\pm 1/2$ 11. $3/2,5$ 13. $-1/3$ 15. $-2/5,8$ 17. ± 7 19. -5,1 21. 1.5,-5 23. 0.5,-5
 25. -0.3,-3.7 27. -0.4,-11.6 29. 0.7,-16.7 31. 24.3,-0.3 33. 6.5,-1/2 35. 0.3,1.3 37. 4.9,-1.9 39. -9.8,0.8 41. 2.3,-0.3
 43. -1.5,0.3 45. 0.3,-2.6 47. 2.1,-1.6 49. zero roots 51. yes 53. no 55. yes 57. yes 59. yes 61. yes 63. yes 65. no
 67. 410.70 69. 1605589.32 71. 0.03 73. 7.2×10^{-8} 75. \$6,519.23

Page 162

1. 6,-4 3. 5.2,-1.5 5. $2/3,-14$ 7. -5,-3 9. $\pm 1/3$ 11. $4/3,2$ 13. 1.2,-10.2 15. 3.5,-4.5 17. 0.5,-6.5 19. 0.2,-5.2
 21. -2.1,12.1 23. 1.4,-15.4 25. 9.3,-1.3 27. 0.7,-10.7 29. 1.7,-1.5 31. -1.2,1.7 33. yes 35. yes 37. yes 39. yes
 41. no 43. 5.9×10^{-8} 45. 6.47×10^{-5} 47. 3.42×10^{-3} 49. 172.7 mg

Page 166

1. $\frac{x^2}{3y}$ 3. $\frac{y+1}{4y}$ 5. $a/2$ 7. $8a$ 9. $(x+y)$ 11. $\frac{y^4+4}{y+2}$ 13. 6 15. $3x^2$ 17. $\frac{1}{7+4x-2x^2}$ 19. $\frac{p^3(6p-1)}{p-1}$ 21. $\frac{x-3}{x+2}$
 23. $\frac{x-1}{x-3}$ 25. $\frac{x+1}{x+3}$ 27. $1/2$ 29. $\frac{y+5}{y+2}$ 31. $\frac{x-7}{x-2}$ 33. $\frac{b+12}{b-12}$

Page 167

1. $10/x$ 3. $-1/a$ 5. $\frac{x^2-1}{x^2-4}$ 7. $\frac{b-5}{b^3-b^2+b-1}$ 9. $\frac{4a^2-a}{20a^2+9a+1}$ 11. $\frac{24x^2-48x}{35x-105}$ 13. $3x$ 15. $-36/7$ 17. $-3/5$

Page 168

1. $\frac{-10a^4}{21}$ 3. $\frac{12x^6}{35}$ 5. $\frac{-50+25m}{-36+9m}$ 7. $\frac{y^2-6y+8}{y^2+2y}$ 9. $\frac{x}{2x+12}$ 11. $\frac{x-2}{x-3}$ 13. $\frac{-a+7}{a+2}$ 15. $\frac{2a-5}{3}$
 17. $\frac{x^2-4x+4}{x^2-10x+24}$ 19. $\frac{(a-3)}{(2a-1)}$

Page 171

1. $5x^4 - x^3 + \frac{1}{4}x^2 - 2x + 4$ 3. $\frac{8}{3}x^4 - \frac{1}{2}x^3 + \frac{1}{6}x^2 + 1$ 5. $6x^2 + 8x + 2$ 7. $-6a^5 + 2a^3 - a$ 9. $4st + s - \frac{3s}{t}$ 11. $7d - 2 + \frac{d}{2c}$
 13. $3w^2z^2 + 2wz - 1$ 15. $x - 4R\frac{6}{x-1}$ 17. $x + 3$ 19. $y + 5$ 21. $t - 20$ 23. $m^2 - 8$ 25. $n^3 - 2$ 27. $2s^3 + 6s + 11R\frac{24}{s-2}$
 29. $x^3 - 2x^2 + 3x - 4R\frac{5}{x+1}$ 31. $x^2 + 4x + 3R\frac{24}{x-3}$ 33. $25x^2 + 145x + 715R\frac{3580}{x-5}$ 35. $15t^2 + 34.5t + 45.75R\frac{143.25}{2t-3}$
 37. $10m^2 + 28m + 62R\frac{128}{m-2}$ 39. $8n^2 + 34n + 128R\frac{516}{n-4}$ 41. $2s^2 - 6R\frac{20}{s+2}$

Page 173

1. $5x$ 3. $\frac{31y}{x}$ 5. $\frac{2x+7}{x-4}$ 7. $\frac{11a^2-7a}{a-2}$ 9. -2 11. $\frac{3r-11}{r+5}$ 13. $\frac{-x^2-5x+12}{2x+7}$ 15. $\frac{2x^2-6x+8}{3x+4}$ 17. $\frac{-7x}{x^2-6x+8}$
 19. $\frac{-2}{x+2}$ 21. $\frac{-2}{x-1}$ 23. $\frac{x+2}{x+1}$

Page 176

1. $\frac{3x^2-8x}{x^2-9}$ 3. $\frac{-16}{3x-15}$ 5. $\frac{-7r^2-19r}{(r+3)^2}$ 7. $\frac{10x}{x-3}$ 9. $\frac{x^2+5x+4}{(x+2)^2(x+3)}$ 11. $\frac{-(8x^2-41x+42)}{14x^2}$ 13. $\frac{19x+86}{6x^2}$
 15. $\frac{-6u^2+15u+12}{-(u-4)(u+4)}$ 17. $\frac{1}{x-y}$ 19. $\frac{-2x-46}{(x+5)(x-4)(x+2)}$ 21. $\frac{44b-13}{(4b-1)^2}$ 23. $\frac{-15a-4ab-4b^2}{a^2-b^2}$ 25. $\frac{-3x^2-21x+10}{x^2-25}$

27. $\frac{3s-3}{-(s^2-9)}$ 29. $\frac{-(6x^2+17x+10)}{4x^2-25}$ 31. $\frac{-4a}{a^2-1}$ 33. $\frac{-2(x^2+1)}{x^2-1}$ 35. $\frac{-77x^2-9x}{49x^2-81}$ 37. $\frac{x^2-x-7}{x^2-4}$ 39. $\frac{x^2-x-81}{x^2-64}$

Page 178

1. 13 3. 37/5 5. 45/4 7. 8.5, 0.5 9. 2.5 11. -1.4, -3.6 13. 17 15. 7.6, -0.15 17. -2 19. 119 21. 6, -4 23. 7/24
25. 6.1, -2.1 27. -9/46 29. -51/32 31. 8, 1 33. -115/21 35. -1.75, -4

Page 180

1. 14 3. 50/3 5. $\frac{3x+24}{45x-70}$ 7. $\frac{3x-3y}{7}$ 9. $\frac{333}{40c^2}$ 11. $\frac{acde+b^2de}{bc^2e-bcd^2}$ 13. $\frac{15x^2-5x}{8x^2-6}$ 15. 57/70 17. $\frac{h+j}{h-j}$
19. $\frac{x+2y}{x+3y+3}$

Page 181

1. $\frac{3x^2}{11y^5}$ 3. $\frac{y+1}{9y}$ 5. $\frac{2a^4+1}{a^2(4a^3+3)}$ 7. $7(a-1)$ 9. $(a+b)^3$ 11. $(y-2)$ 13. $\frac{40}{3x}$ 15. $\frac{-4}{a^7}$ 17. $\frac{x^2-49}{x^2-25}$
19. $\frac{b+5}{b^3+2b^2+4b+8}$ 21. $\frac{a}{4a+5}$ 23. $\frac{5x}{6}$ 25. $-a^4$ 27. $\frac{2x^2}{3}$ 29. $\frac{7m-21}{2m-8}$ 31. $\frac{y^2-6y+8}{y^2+2y}$ 33. $\frac{x}{2x+6}$ 35. 1
37. $9x^4-x^3+\frac{1}{3}x^2-3x+4$ 39. $6x^4-x^3+\frac{1}{5}x^2+1$ 41. $6x^2+9x+2$ 43. $-5a^5+4a^3-a$ 45. $t+8R-\frac{4}{t-2}$

47. $12y+7$

Page 182

1. $x+2$ 3. -1 5. $\frac{-8x-19}{4x+21}$ 7. $\frac{3x-4}{x-3}$ 9. $\frac{8x^2-15x}{x^2-4}$ 11. $\frac{-30}{x-3}$ 13. $\frac{-12r^2-52r}{(r+5)^2}$ 15. $\frac{101x}{35(x-5)}$
17. $\frac{19x-11}{(x+8)(x^2-1)}$ 19. $\frac{-(5x^2-23x+16)}{6x^2}$ 21. 49 23. 68/7 25. -4/9 27. 18, -1 29. -14 31. 1.1, -3.3 33. 45/2
35. 145/112 37. $\frac{5x+21}{96x-240}$ 39. $3c-3d$ 41. $\frac{21}{20}$ 43. $\frac{vwxz+vy^2z}{vw^2y-wyz^2}$

Page 183

1. $-y-2$ 3. $\frac{a(2a^2+3)}{a-4}$ 5. $\frac{x^2-25}{x^2-81}$ 7. $\frac{7a^4}{-10}$ 9. $\frac{2x^2}{5}$ 11. $\frac{77}{18}$ 13. $48x^2-8x+1$ 15. $14y^3+7y^2-2$ 17. $\frac{-x^2-8x+3}{3x+7}$
19. $\frac{4x+3}{x-8}$ 21. $\frac{20x-116}{x^2-49}$ 23. $\frac{25}{b+8}$ 25. $\frac{-2w-15}{(w-9)^2}$ 27. $\frac{-8}{3}$ 29. 1 31. 120 33. $\frac{44}{3}$ 35. $\frac{3}{2}$

Page 188

1. 22.3, 22, 20, 10, no
3. 395.6, 388, no mode, 138, no
5. 0.0094, 0.0095, 0.008, 0.003, no
7. 122, 121, 121, 5, yes
9. 62.4, 62, 62, 13, yes
11. 1.21, 1.22, 1.22, 0.3, yes
13. -2.5, -3, 5, 17, no
15. 22.9, 19.5, 17, 28, no
17. 0.027, -0.1, two modes: -0.1 and -0.3, 1.3, no

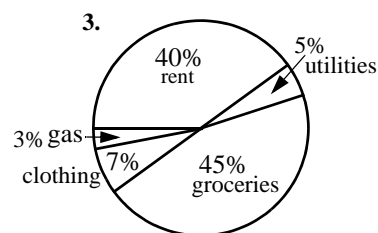
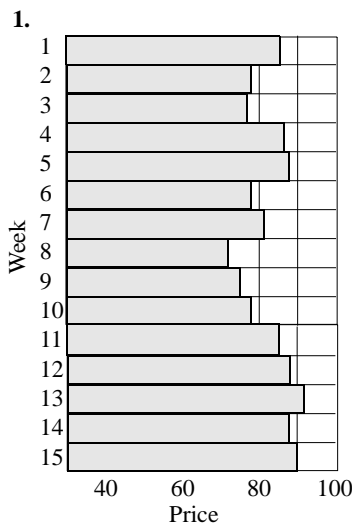
Page 191

1. 1/10 3. 12% 5. 1/10 7. 2.8%
9. 6.1% 11. 6% 13. 6.1%

Page 193

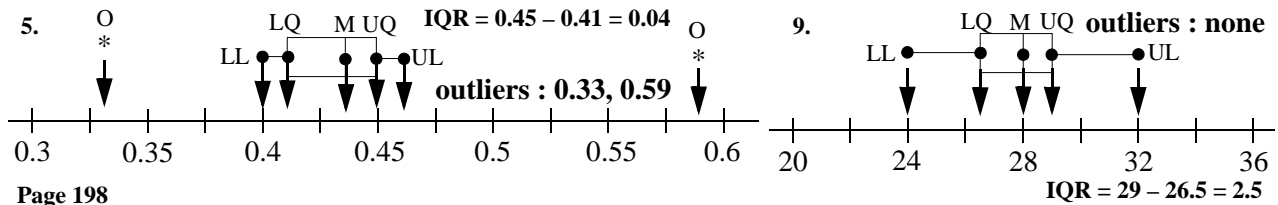
1. 24 3. 5,040 5. 495 7. 120
9. 10 11. 20 13. 40, 320 15. 5040

Page 197



7. negative

(Answer to 5 in next page.)



Page 198

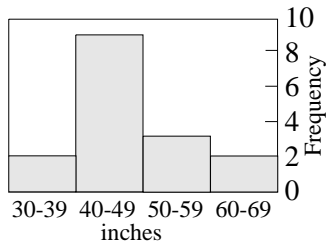
1. 46, 44, 40, 28, no

3. 225.7, 223, no mode, 45, no

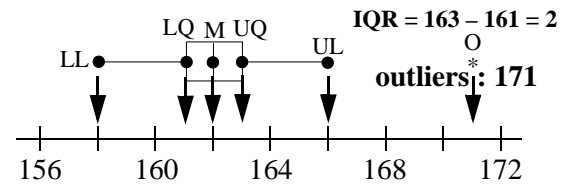
5. 0.094, 0.095, 0.08, 0.03, no

7. 22, 21, 21, 5, yes

9. 162.4, 162, 162, 13, yes

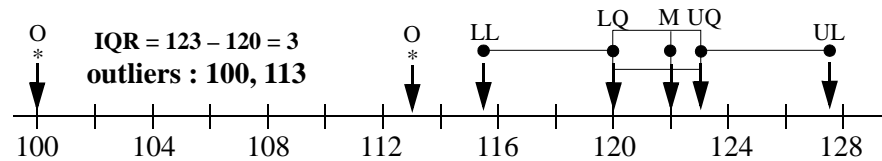


STEM	LEAF
20	0, 8
21	
22	0, 2, 3
23	5, 8
24	0, 5



11. 119.9, 122, 122, 25, yes

13. 1/15 15. 33.0% 17. 7/22 19. 1.9% 21. 306
23. 220 25. 252 27. 45

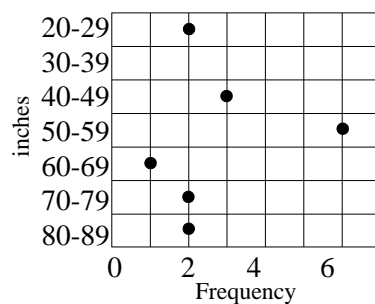
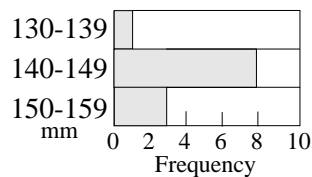


Page 199

1. 144.7, 144, 140, 20, no

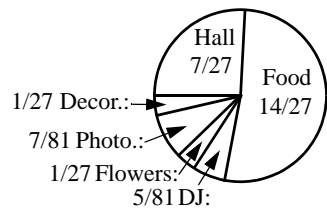
3. 54.1, 55, 55, 68, yes

5. 0.21, 0.2, two modes: 0.2 and 0.19, 0.1, no



STEM	LEAF
0.1	8, 9, 9, 9,
0.2	0, 0, 0, 1, 1, 8, 8

7.



9. 3.8% 11. 16/625 13. 84 15. 5,040 17. 20,349

Page 205

1. 25,000 m 3. 7,392 ft 5. 5,500 g 7. 548.6 m 9. 3.125 lbs 11. 0.9 g 13. 3,200 mL 15. 3.5 ft 17. 0.035 m 19. 3 oz
21. 17 qts 23. 3.5 kg. 25. 175 cm 27. 4 cups 29. 108.1 mi 31. 136.8 in 33. 2400 mg 35. 2 oz 37. 11.8 in
39. 49.7 mi/hr 41. 5 gal. 43. 64 45. 1,600 47. 100 49. 42.2 °C 51. 16,160 lbs 53. 42.2 km

Page 207

1. $x = 12, y = 14.4$ 3. $x = 64.0, y = 82.3$

Page 208

5. $w = 32\sqrt{2}, x = 29.1, y = 20.9$ 7. $w = 13.5, x = 13\sqrt{3}, y = 16, z = 6.75$ 9. $x = 8.8, y = 10.2\sqrt{6}$ 11. $x = 15.75, y = 8$
13. $x = 2.88, y = 3.75$ 15. $x = 8.8, y = 7.6$

Page 210

1. 42 3. 374 5. 116

Page 211

7. 71.12 9. 263 11. 75 13. 144 ft 15. 125 ft, 430 ft 17. 73 ft 19. 120 mi

Page 214

1. 48 3. 161.5 5. 5,510

Page 215

7. 207 9. 1,017.36 11. 4,612.5 13. 415.3 in^2 15. 135 yd^2 17. 82.56 19. 8 in 21. 6 ft^2 23. 101.5 in^2 25. 29.9 mi

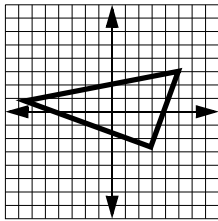
Page 218

1. 8,736 3. 86,814.72 5. 145,152 7. 105,975 9. $5,572.45\bar{3}$ 11. 79,679.7 13. 64

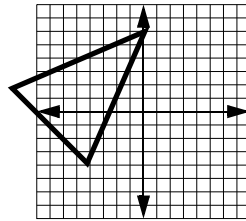
Page 221

1. $(-6,-5),(2,-1),(7,-5)$ 3. $r = 2$, centered $(5,4)$ 5. $(1,7),(-1,3),(2,1)$ 7. $(7,3),(1,-1),(3,-7)$

9.



11.



13. one 15. two

Page 222

1. 260,000 m 3. 39,072 ft 5. 530 g 7. 1,371.6 m 9. 10 lbs 11. 1.6 g 13. 32,000 mL 15. 35 ft 17. 0.35 m 19. 1,144 lbs
21. 120.7 km 23. $x = 1.1, y = 13.3$ 25. $x = 2.8\bar{3}, y = 0.85, z = 0.64$ 27. 168 ft 29. 205.6 in 31. 596.6 in 33. 83.1

35. 252.53

Page 223

1. $3,888 \text{ in}^2$ 3. 158.7 yd^2 5. 93.8 ft^2 7. 52 9. 3,629.84 11. $85.\bar{3} \text{ in}^3$ 13. 1.939 m 15. 27,355.68 17. $177.\bar{3}$

19. $(3,2),(3,6),(8,6),(8,2)$ 21. $(1,4),(-5,4),(-4,-8)$ 23. one 25. undefined (infinite number)

Page 224

1. 500,000 cm 3. 250 yds 5. 0.075 g 7. 1.07 tons 9. 113.08 11. W: 15, L: 60 13. 30 ft 15. 406,944

17. $(7,3),(3,5),(1,1),(5,-4)$ 19. zero