

Chapter 6

Elementary Algebra, Norco Edition Answers to Odd Exercises

Section 6.1

3. $5 \cdot 5 \cdot 5 = 125$

7. $(-4) \cdot (-4) \cdot (-4) = -64$

11. 4

19. 1

27. p^5

35. x^4

43. p^3

51. 1

59. 1

67. x^3w^4

75. $\frac{49}{p^6}$

13. -3

21. 1

29. x^{14}

37. m^8

45. 1

53. $\frac{y^5}{x^5}$

61. $\frac{-3p}{8m}$

69. $81w^8$

77. 1

5. $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 64$

9. $(-10) \cdot (-10) \cdot (-10) \cdot (-10) = 10,000$

15. $\frac{3}{8}$

23. x^8

31. q^{14}

39. w

47. k^4h^4

55. $\frac{8h^3}{27}$

63. x^8

71. $\frac{x^{12}}{y^2}$

79. $\frac{1}{y}$ and y^{-1}

17. 1

25. y^4

33. x^{20}

41. c^4

49. $81m^4$

57. $\frac{81p^2}{16m^2}$

65. $a^{18}b^3$

73. $\frac{w^{12}}{u^{28}}$

81. $\frac{1}{x^4}$ and x^{-4}

Section 6.2

3. $\frac{1}{8}$

11. $\frac{5}{3}$

19. k^6

27. $\frac{1}{y^5}$

35. $\frac{1}{w^4}$

43. $\frac{1}{p^{14}}$

5. $\frac{1}{121}$

13. $\frac{121}{4}$

21. $\frac{1}{x^3}$

29. y^7

37. $\frac{1}{y^{12}}$

45. y^7

7. $\frac{1}{x}$

15. $\frac{c^5}{b^5}$

23. p^3

31. m^7

39. $\frac{1}{n^8}$

47. m^5

9. $\frac{1}{w^6}$

17. $\frac{w^4}{16x^4}$

25. $\frac{1}{v^4}$

33. h^4

41. h^8

Section 6.3

3. 7×10^8 5. 1×10^{10} 7. 3×10^{-2} 9. 4×10^{-6}
11. 3.3×10^5 13. 1.3×10^2 15. 8.3×10^{10} 17. 2.8×10^{-1}
19. 9.13×10^{-3} 21. 2.914×10^{-3} 23. 56,000,000 25. 203,000
27. 530 29. 0.023 31. 0.000632 33. 0.00000401
35. 8.5×10^7 37. 4.53×10^6 39. 3.09×10^{-1} 41. 9.0×10^4
43. 2.1×10^3 45. 3.9×10^{-9} 47. 3.6×10^6 49. 6.9×10^9
51. 1.6×10^{-7} 53. 6.0×10^5 55. 2.0×10^{10} 57. 2.0×10^2
59. The average hummingbird weighs 3.2×10^{-3} kilograms.
61. The total number of gallons of gas consumed was 4.99×10^9 .
63. The U.S. national debt was 8.66×10^{12} .
65. The total amount of money spent on fuel was $\$2.3517 \times 10^{11}$.
67. The giant tortoise can travel 2.304×10^{-1} miles in one hour.
69. 8.1×10^{13} 71. 8.1×10^{29}

Section 6.4

5. $x^2, 2x$ 7. $-5c^2, -4c, 1$ 9. $x^4y, \frac{5}{8}xy^4, -\frac{1}{2}$
11. Trinomial 13. Monomial 15. Binomial
17. Quadrinomial 19. 8 21. 44
23. 1 25. -9 27. 18
29. -9 31. 2 33. 0
35. 1 37. 2 39. $3x + 4$
41. $7b^3 + 4b$ 43. $4x^2 + 5x - 6$ 45. $-w^4 - w^2 + 6$
47. $-y^3 - 5y^2 - y + 1$ 49. $10a^3 - 6a^2 + 9a - 1$ 51. $10x^3$
53. $3p^2 + 4p$ 55. $-2n^3$ 57. $13x^4 + 1$
59. $-v^3 + 13v^2$ 61. $-y^3 + x^2$ 63. $-x^2 - 6x$
65. $5p^5 - 7$
67. At the 1-second mark, the ball was 1,184 feet above the ground.
69. At the 5-second mark, the ball was 800 feet above the ground.
71. At the 1-second mark, the rock was 314 feet above the ground.
73. At the 3-second mark, the rock was 246 feet above the ground.

Section 6.5

3. $7x^2 + 5x$ 5. $-4c - 6$ 7. $p^2 - 6p$
9. $-5x^2 - 4x + 1$ 11. $3k^3 + 7k^2 - k$ 13. $-3v^3 + 2v + 1$
15. $3x^2 - 2x$ 17. $9v - 6$ 19. $-11c + 6$
21. $c^2 - 10c - 2$ 23. 11 25. 0
27. $-3c^3 - 7c + 9$ 29. $3y^3 + 3y - 9$ 31. $y^3 + 2$
33. $9q^3 - q + 1$
35. a) $P = 4x^2 + 6x - 6$
 b) No. When x is 10, one side is -16, and it is not possible for the side of a rectangle to be negative.

Section 6.6

3. $6y^5$ 5. $-3b^3$ 7. $18k^6$ 9. $9c^4$
11. $10q^4 - 30q$ 13. $-h^5 - 4h^3$
15. $-10v^4 + 20v^2$ 17. $-6y^6 + 3y^3 - 12y^2$
19. $w^3 + 7w^2 + 13w + 6$ 21. $4x^3 - 9x^2 - 17x - 6$
23. $x^2 - 9x - 36$ 25. $q^2 + 11q + 24$
27. $12c^2 - 13c + 3$ 29. $16x^4 - 9$
31. $2r^3 + 7r^2 - 10r - 35$ 33. $y^5 - 6y^3 - 5y^2 + 30$
35. $y^3 - 64$ 37. $w^4 + 4w^3 - 10w^2 - 7w + 6$
39. $x^4 - 10x^3 + 17x^2 + 40x + 16$

Section 6.7

3. $x^2 + 12x + 27$ 5. $6x^2 - 5x - 25$ 7. $49m^2 - 14m + 1$
9. $6x^3 - 3x^2 - 12x + 6$ 11. $p^2 + 15p + 54$ 13. $x^2 - 2x - 8$
15. $p^2 - 100$ 17. $10x^2 - 23x + 12$ 19. $4x^2 - 20x + 25$
21. $y^4 - 7y^2 + 12$ 23. $3v^4 + 7v^2 - 20$ 25. $14x^4 + 11x^2 - 15$
27. $x^2 + 14x + 49$ 29. $c^2 + 20c + 100$ 31. $p^2 + 24p + 144$
33. $4x^2 + 12x + 9$ 35. $9x^2 + 42x + 49$ 37. $9c^2 - 48c + 64$
39. $w^4 - 8w^2 + 16$ 41. $r^6 + 10r^3 + 25$ 43. $x^2 - 4$
45. $w^2 - 81$ 47. $y^2 - 400$ 49. $9x^2 - 1$

51. $25x^2 - 1$

57. $x^6 - 64$

63. $(w + 5)(w - 5)$

67. $(3x - 1)(3x + 1)$

73. $x + 3$

53. $36y^2 - 49$

59. $25x^8 - 4$

65. $(3m - 10)(3m + 10)$

69. $x + 7$

55. $x^4 - 16$

61. $(x - 9)(x + 9)$

71. $x - 11$

Section 6.8

3. $4x^3$

5. -5

7. $5x^4$

9. $-5x^3$

11. $x^3 + 3x$

13. $-4x^3 - 3$

15. $7d^3 + cd^2 + 5c^2d$

17. $2c^2 + 3c - 1$

19. $a^2 + \frac{3}{2}a - \frac{1}{2}$

21. $y + 5 - \frac{7}{y+5}$

23. $3y + 2$

25. $p^2 - p - 2 + \frac{5}{p+3}$

27. $m^2 + 2 - \frac{1}{m-4}$

29. $x^2 - 2x - \frac{3}{x+6}$

31. $4y^2 + 2y - 1 - \frac{5}{y-2}$

33. $r^2 + 2r - 2$

35. $4x - 5$

37. $5v^2 - v - 3 + \frac{5}{v+3}$

39. $2m^2 - m + 5 - \frac{4}{m+5}$

41. $4p^2 - 4p + 4 + \frac{1}{p+1}$

43. $y^3 + 2y^2 - 5y - 10 - \frac{4}{y-2}$

45. $y^2 - y + 6 + \frac{-34y-27}{y^2+4y+3}$

47. $3x^2 + 2x + 1 + \frac{5x-5}{2x^2-1}$