

43. $(2x + 1 - 2y)(2x + 1 + 2y)$ 45. $x^3 - 1$ 47. $8x^3 + 1$ 49. $27a^3 - 8b^3$
 51. $(x + 3)(x^2 - 3x + 9)$ 53. $(2x - y)(4x^2 + 2xy + y^2)$ 55. $(a - 2b)(a^2 + 2ab + 4b^2)$
 57. $(xy - 1)(x^2y^2 + xy + 1)$ 59. $(3a + 4b)(9a^2 - 12ab + 16b^2)$
 61. $(5ab - 1)(25a^2b^2 + 5ab + 1)$ 63. $(2x - y)(x^2 - xy + y^2)$
 65. $(2y - x)(7x^2 + 8xy + 4y^2)$ 67. $2(3x^2 + 1)$ 69. $(y^2 + 3)(y^2 - 3)$
 71. $(a^2 + 1)(a^2 + 2)$ 73. $(3x^2 + 1)(x^2 + 2)$ 75. $(x^2 + 4)(x + 2)(x - 2)$
 77. $(x^3 + 4)(x - 1)(x^2 + x + 1)$ 79. $(u^2 - 2)(u^2 + 2)(u^2 + 1)(u + 1)(u - 1)$
 81. $4y^3(x - 3)(x + 3)$ 83. $x^2y^2(x + 1)(x - 1)$ 85. $3b^2(2a^2 - 1)(4a^4 + 2a^2 + 1)$
 87. $6a^3b^2(2a^2 + 1)(a + 1)(a - 1)$ 89. $9a^2x^4(x + a)(x - a)(x^2 + 2a^2)$
 91. $2x^3(3x^3 + 1)(x^3 - 4)$ 93. $(x + y)(x^2 - xy + y^2)(x - y)(x^2 + xy + y^2)$
 95. a. $500(1 + r)^2$; $500(1 + r)^3$; $500(1 + r)^4$ 97. a. Length, width: $9 - 2x$ feet; height: x feet
 b. $500r^2 + 1000r + 500$; $500r^3 + 1500r^2 + 1500r + 500$; $500r^4 + 2000r^3 + 3000r^2 + 2000r + 500$
 c. \$583.20; \$629.86; \$680.24
 99. a. r centimeters, $r + 2$ centimeters, $r + 4$ centimeters
 b. $18\pi r^2$ cubic centimeters;
 $18\pi(r + 2)^2$ cubic centimeters;
 $18\pi(r + 4)^2$ cubic centimeters
 c. $54\pi r^2 + 216\pi r + 360\pi$ cubic centimeters
 101. a. No
 b. $(x + y)(x - y)$
 c. $x^2 - 2xy + y^2$
 105. a. $(x + y)^2$
 b. $x^2 + 2xy + y^2$
 c. x^2, xy, xy, y^2
 103. a. No
 b. $(x - y)(x^2 + xy + y^2)$
 c. $x^3 - 3x^2y + 3xy^2 - y^3$
 107. a. $\frac{1}{2}x^2 - \frac{1}{2}y^2$
 b. $\frac{1}{2}(x - y)(x + y)$
 c. 18 square feet

Chapter I Review [page 47] 1. -36 2. 36 3. -8 4. -8 5. 10 6. $-\frac{5}{2}$

7. 4 8. 15 9. -9 10. 13 11. 52 12. 3.675 13. $-x^2 - 3x + 7$
 14. $y^3 - 3y^2 - 2y + 3$ 15. $4 - y$ 16. $12 - 3y$ 17. $y - 2x$ 18. $6y - 4$
 19. -13 20. 1.416 21. 108 22. -36 23. $6a^6b^3$ 24. $-3a^5b^3$
 25. $9x^3y^5 - x^3y$ 26. $4x^3y^3 + x^4y^2 - y^3$ 27. $2a^3b^2 - 3a^2b^3 + ab^3$
 28. $-3a^4b + 2a^3b^3 + a^2b^3$ 29. $6x^2 + 8xy - 8y^2$ 30. $x^3 + x^2 - 10x + 8$
 31. $8x^3 - 36x^2 + 54x - 27$ 32. $9x^6 - 1$ 33. $-2a^2 + a$ 34. $-3b^3$ 35. $-3a(a - 3)^2$
 36. $2(3b - 1)(b + 1)^2$ 37. $(2x + 3)(7x - 1)$ 38. $(3xy + 1)(2xy - 5)$
 39. $(3y + 2)(2x - 1)$ 40. $2(x^2 + 3)(x - 2)$ 41. $x^2(3x + 2)(x - 2)$