SECTION 5.6

1. $(x + 4)(x - 4)$ **3.** $(2x + 1)(2x - 1)$ **5.** $(4x + 11)(4x - 11)$ **7.** $(1 + 3a)(1 - 3a)$ **9.** $(xy + 10)(xy - 10)$

11. Nonfactorable over the integers **13.** $(5 + ab)(5 - ab)$ **15.** $(a^n + 1)(a^n - 1)$ **17.** $(x - 6)^2$ **19.** $(b - 1)^2$

21. $(4x - 5)^2$ **23.** Nonfactorable over the integers **25.** Nonfactorable over the integers **27.** $(x + 3y)^2$

29. $(5a - 4b)^2$ **31.** $(x^n + 3)^2$ **33.** $(x - 7)(x - 1)$ **35.** $(x - y + a + b)(x - y - a - b)$ **37.** $(x - 3)(x^2 + 3x + 9)$

39. $(2x - 1)(4x^2 + 2x + 1)$ **41.** $(x - y)(x^2 + xy + y^2)$ **43.** $(m + n)(m^2 - mn + n^2)$ **45.** $(4x + 1)(16x^2 - 4x + 1)$

47. $(3x - 2y)(9x^2 + 6xy + 4y^2)$ **49.** $(xy + 4)(x^2y^2 - 4xy + 16)$ **51.** Nonfactorable over the integers

53. Nonfactorable over the integers **55.** $(a - 2b)(a^2 - ab + b^2)$ **57.** $(x^{2n} + y^n)(x^{4n} - x^{2n}y^n + y^{2n})$

59. $(x^n + 2)(x^{2n} - 2x^n + 4)$ **61.** $(xy - 3)(xy - 5)$ **63.** $(xy - 5)(xy - 12)$ **65.** $(x^2 - 3)(x^2 - 6)$

67. $(b^2 + 5)(b^2 - 18)$ **69.** $(x^2y^2 - 2)(x^2y^2 - 6)$ **71.** $(x^n + 1)(x^n + 2)$ **73.** $(3xy - 5)(xy - 3)$

75. $(2ab - 3)(3ab - 7)$ **77.** $(2x^2 - 15)(x^2 + 1)$ **79.** $(2x^n - 1)(x^n - 3)$ **81.** $(2a^n + 5)(3a^n + 2)$ **83.** $3(2x - 3)^2$

85. $a(3a - 1)(9a^2 + 3a + 1)$ **87.** $5(2x + 1)(2x - 1)$ **89.** $y^3(y + 11)(y - 5)$ **91.** $(4x^2 + 9)(2x + 3)(2x - 3)$

93. $2a(2 - a)(4 + 2a + a^2)$ **95.** $b^3(ab - 1)(a^2b^2 + ab + 1)$ **97.** $2x^2(2x - 5)^2$ **99.** $(x^2 + y^2)(x + y)(x - y)$

101. $(x^2 + y^2)(x^4 - x^2y^2 + y^4)$ **103.** Nonfactorable over the integers **105.** $2a(2a - 1)(4a^2 + 2a + 1)$

107. $a^2b^2(a + 4b)(a - 12b)$ **109.** $2b^2(3a + 5b)(4a - 9b)$ **111.** $(x - 2)^2(x + 2)$ **113.** $(x + y)(x - y)(2x + 1)(2x - 1)$

115. $(x - 1)(x^2 + x + 1)(xy + 1)(x^2y^2 - xy + 1)$ **117.** $x(x^n + 1)^2$ **119.** $b^n(3b - 2)(b + 2)$

121. $(x - 3)(x - 2)(x - 1)$ **123.** $(x^2 + xy + y^2)(x^2 - xy + y^2)$ **125.** Answers will vary. For example, divide $x^3 + 6x^2 - 7x - 60$ by $x - 3$. The quotient will be a trinomial. Factor the trinomial. One factor is $x + 4$. The other factor is $x + 5$, a third first-degree factor of $x^3 + 6x^2 - 7x - 60$.