7-7 Adding and Subtracting Polynomials *(pp. 504–509)*

EXAMPLES

Add.

■ $(h^3 - 2h) + (3h^2 + 4h) - 2h^3$

$(h^3 - 2h) + (3h^2 + 4h) - 2h^3$

$(h^3 - 2h^3) + (3h^2) + (4h - 2h)$

$-h^3 + 3h^2 + 2h$

Subtract.

■ $(n^3 + 5 - 6n^2) - (3n^2 - 7)$

$(n^3 + 5 - 6n^2) + (-3n^2 + 7)$

$(n^3 + 5 - 6n^2) + (-3n^2 + 7)$

$n^3 + (-6n^2 - 3n^2) + (5 + 7)$

$n^3 - 9n^2 + 12$

EXERCISES

Add or subtract.

79. $3t + 5 - 7t - 2$

80. $4x^5 - 6x^6 + 2x^5 - 7x^5$

81. $-h^3 - 2h^2 + 4h^3 - h^2 + 5$

82. $(3m - 7) + (2m^2 - 8m + 6)$

83. $(12 + 6p) - (p - p^2 + 4)$

84. $(3z - 9z^2 + 2) + (2z^2 - 4z + 8)$

85. $(10g - g^2 + 3) - (-4g^2 + 8g - 1)$

86. $(-5x^3 + 2x^2 - x + 5) - (-5x^3 + 3x^2 - 5x - 3)$

7-8 Multiplying Polynomials *(pp. 512–519)*

EXAMPLES

Multiply.

■ $(2x - 4)(3x + 5)$

$2x(3x) + 2x(5) - 4(3x) - 4(5)$

$6x^2 + 10x - 12x - 20$

$6x^2 - 2x - 20$

■ $(b - 2)(b^2 + 4b - 5)$

$b(b^2) + b(4b) - b(5) - 2(b^2) - 2(4b) - 2(-5)$

$b^3 + 4b^2 - 5b - 2b^2 - 8b + 10$

$b^3 + 2b^2 - 13b + 10$

EXERCISES

Multiply.

87. $(2r)(4r)$

88. $(3a^5)(2ab)$

89. $(-3xy)(-6x^2y)$

90. $(3s^3t^2)(2st^4)\left(\frac{1}{2}s^2t^8\right)$

91. $2(x^2 - 4x + 6)$

92. $-3ab(ab - 2a^2b + 5a)$

93. $(a + 3)(a - 6)$

94. $(b - 9)(b + 3)$

95. $(x - 10)(x - 2)$

96. $(t - 1)(t + 1)$

97. $(2q + 6)(4q + 5)$

98. $(5g - 8)(4g - 1)$

7-9 Special Products of Binomials *(pp. 521–527)*

EXAMPLES

Multiply.

■ $(2h - 6)^2$

$(2h - 6)^2 = (2h)^2 + 2(2h)(-6) + (-6)^2$

$4h^2 - 24h + 36$

■ $(4x - 3)(4x + 3)$

$(4x - 3)(4x + 3) = (4x)^2 - 3^2$

$16x^2 - 9$

EXERCISES

Multiply.

99. $(p - 4)^2$

100. $(x + 12)^2$

101. $(m + 6)^2$

102. $(3c + 7)^2$

103. $(2r - 1)^2$

104. $(3a - b)^2$

105. $(2n - 5)^2$

106. $(h - 13)^2$

107. $(x - 1)(x + 1)$

108. $(z + 15)(z - 15)$

109. $(c^2 - d)(c^2 + d)$

110. $(3k^2 + 7)(3k^2 - 7)$