49. $w^2 + 3w + 4$

51. $11w - 66$

53. $10x^2 - 7xy + 6y^2$

55. $10m^2 + 3mn - 8n^2$

57. $-3ab + 3b^2$

59. $p^3 - 6p^2q + pq^2 + 4q^3$

61. $x^3 + 2x^2y - 5xy^2 + y^3$

63. ⓐ 187 ⓑ 40 ⓒ 2

65. ⓐ -104 ⓑ 4 ⓒ 40

67. The height is 11 feet.

69. The revenue is \$10,800.

71. The cost is \$456.

73. ⓐ $(f + g)(x) = 7x^2 + 4x + 4$

75.

77. Answers will vary.

ⓑ $(f + g)(2) = 40$

ⓐ $(f + g)(x) = 6x^3 - x^2 - 9x + 3$

ⓒ $(f - g)(x) = -3x^2 - 12x - 2$

ⓑ $(f + g)(2) = 29$

ⓓ $(f - g)(-3) = 7$

ⓒ $(f - g)(x) = -x^2 + 5x + 3$

ⓓ $(f - g)(-3) = -21$

79. Answers will vary.

81. ⓐ d^9 ⓑ 4^{14x} ⓒ $8y^4$ ⓓ w^6

83. ⓐ n^{31} ⓑ 3^{x+6} ⓒ $56w^6$

ⓓ a^{16}

85. m^{x+3}

87. y^{a+b}

89. ⓐ x^{15} ⓑ 5^9 ⓒ $\dfrac{1}{q^{18}}$ ⓓ $\dfrac{1}{10}$

91. ⓐ p^{14} ⓑ 4^{12} ⓒ $\dfrac{1}{b^8}$ ⓓ $\dfrac{1}{4^5}$

93. ⓐ 1 ⓑ 1

95. ⓐ -1 ⓑ -1

97. ⓐ $\dfrac{1}{a^2}$ ⓑ $\dfrac{1}{1000}$ ⓒ c^5 ⓓ 9

99. ⓐ $\dfrac{1}{r^3}$ ⓑ $\dfrac{1}{100,000}$ ⓒ q^{10}

101. ⓐ $\dfrac{64}{25}$ ⓑ $\dfrac{a^2}{b^2}$

ⓓ $1,000$

103. ⓐ $\dfrac{729}{64}$ ⓑ $-\dfrac{v^5}{u^5}$

105. ⓐ $\dfrac{1}{25}$ ⓑ $\dfrac{1}{25}$ ⓒ 25 ⓓ -25

107. ⓐ $\dfrac{3}{5}$ ⓑ $\dfrac{1}{15}$

109. ⓐ $\dfrac{1}{b^4}$ ⓑ $\dfrac{w^2}{x^9}$ ⓒ $-12cd^4$

111. ⓐ 1 ⓑ $\dfrac{1}{u^4 v^5}$ ⓒ $-36\dfrac{r^2}{j^5}$

113. $\dfrac{1}{p}$

115. ⓐ m^8 ⓑ 10^{18} ⓒ $\dfrac{1}{x^{12}}$

117. ⓐ y^{3x} ⓑ 5^{xy} ⓒ $\dfrac{1}{q^{48}}$

119. ⓐ $9x^2 y^2$ ⓑ 1 ⓒ $\dfrac{1}{25x^4}$

ⓓ $\dfrac{16}{y^6}$

121. ⓐ $-125a^3 b^3$ ⓑ 1 ⓒ $\dfrac{1}{36x^6}$

123. ⓐ $\dfrac{p^5}{32}$ ⓑ $\dfrac{y^6}{x^6}$ ⓒ $\dfrac{8x^3 y^6}{z^3}$

125. ⓐ $\dfrac{a^4}{81b^4}$ ⓑ $\dfrac{16m^2}{25}$ ⓒ $\dfrac{a^4 c^4}{9b^6}$

ⓓ $\dfrac{9}{y^8}$

ⓓ $\dfrac{16}{p^6 q^4}$

ⓓ $\dfrac{q^8 r^8}{p^2}$

127. ⓐ $1125t^8$ ⓑ $\dfrac{1}{t^{19}}$ ⓒ $\dfrac{y^4}{3x^2}$

129. ⓐ $16m^8 n^{22}$ ⓑ $\dfrac{4}{p^6}$

131. ⓐ $\dfrac{7}{n}$ ⓑ $\dfrac{1}{7n}$ ⓒ $-\dfrac{1}{7n}$

133. ⓐ $\dfrac{1}{9p^2}$ ⓑ $\dfrac{3}{p^2}$ ⓒ $\dfrac{-3}{p^2}$

135. x^{14}

137. x^{30}

139. $8m^{18}$

141. $1,000x^6 y^3$

143. $16a^{12} b^8$

145. $\dfrac{8}{27}x^6 y^3$

147. $1,024a^{10}$

149. $25,000p^{24}$

151. $x^{18} y^{18}$

153. $144m^8 n^{22}$

155. ⓐ $45x^3$ ⓑ $48y^4$

157. ⓐ $\dfrac{1}{2r^4}$ ⓑ $\dfrac{1}{3}x^{11}$

159. $\dfrac{1}{j^3}$

161. $-\dfrac{4000}{n^{12}}$

163. ⓐ 34×10^4 ⓑ 41×10^{-3}

165. ⓐ 1.29×10^6

167. ⓐ -830 ⓑ 0.038

ⓑ 103×10^{-8}

169. ⓐ $16,000,000,000$

171. ⓐ 0.02 ⓑ $500,000,000$

173. ⓐ 0.0000056 ⓑ $20,000,000$

ⓑ 0.00000843