B

■ *Simplify.*

99. $\left[\left(\frac{r^2s^3t}{xy}\right)^3\left(\frac{x^2y}{r^3st^2}\right)^2\right]^2$

100. $\left[\left(\frac{a^3bc}{x^2y}\right)^4\left(\frac{x^2yz}{ab^2c^3}\right)^2\right]^2$

101. $\left(\frac{x^2}{a^2b}\right)^2\left(-\frac{ab}{x^3}\right)^3\left(\frac{x}{ab}\right)^2$

102. $\left(\frac{m^3n^2p}{r^2s}\right)^2\left(\frac{rs}{mn^2p^2}\right)^3\left(-\frac{mnp}{rs}\right)^2$

103. $\left(\frac{3x^{-1}y^3}{2x^0y^{-5}}\right)^{-2}$

104. $\left(\frac{2x^{-3}z^0}{5x^{-4}z^{-2}}\right)^{-3}$

105. $\frac{(2^{-2}x^2y^{-1})^{-3}}{(4x^{-3}y^2)^{-2}}$

106. $\frac{(3y^3z^{-2})^{-1}}{(2^{-3}y^{-2}z)^{-2}}$

107. $\left(\frac{6x^{-2}y^2}{4z^{-1}}\right)^{-1}\cdot\left(\frac{3x^{-1}y^0}{z}\right)^{-2}$

108. $\left(\frac{2y^{-3}x}{3z^2}\right)^{-2}\left(\frac{2x^4}{9y^{-2}z^{-2}}\right)^{-1}$

■ *Factor.*

109. $2(x+3)^{-2} - 2(x+3)^{-3}(2x-3) = 2(x+3)^{-3}(?)$

110. $3(x-1)^{-3} - 3(3x+4)(x-1)^{-4} = 3(x-1)^{-4}(?)$

111. $(2x+1)^{-2}(3x-2)^{-2} + 3(3x-2)^{-3}(2x+1)^{-1} = (2x+1)^{-2}(3x-2)^{-3}(?)$

112. $-3(x+7)^{-4}(2x-3)^{-3} - 6(2x-3)^{-4}(x+7)^{-3} = -3(x+7)^{-4}(2x-3)^{-4}(?)$

113. Prove Laws (IV) and (IVa) for quotients of powers.

114. Prove Law (V) for powers of quotients.

CHAPTER REVIEW

A

[2.1]

■ *Reduce each fraction to lowest terms.*

1. $\frac{2a^2(a-1)^2}{4a(a-1)^3}$

2. $\frac{a^2(2a-1)}{4a(1-2a)}$

3. $\frac{4y-6}{6}$

4. $\frac{2x^2y^3 - 4x^3y}{4x^2y}$

5. $\frac{2x^2+6x}{2(x+3)^2}$

6. $\frac{(x-2y)^2}{4y^2-x^2}$

7. $\frac{a^2-6a+9}{2a^2-18}$

8. $\frac{4x^2y^2+4xy+1}{4x^2y^2-1}$

9. $\frac{xy+2x+y+2}{x^3+x^2+x+1}$

10. $\frac{(a+1)^2(a-2) - 2(a+1)(a-2)}{a^2-a-2}$