

Extra Practice

Lesson 8-2

(pages 417–423)

Simplify. Assume that no denominator is equal to zero.

1. $\frac{6^{10}}{6^7}$ **6^3 or 216**

2. $\frac{b^6c^5}{b^3c^2}$ **b^3c^3**

3. $\frac{(-a)^4b^8}{a^4b^7}$ **b**

4. $\frac{(-x)^3y^3}{x^3y^6}$ **$-\frac{1}{y^3}$**

5. $\frac{12ab^5}{4a^4b^3}$ **$\frac{3b^2}{a^3}$**

6. $\frac{24x^5}{-8x^2}$ **$-3x^3$**

7. $\frac{-9h^2k^4}{18h^5j^3k^4}$ **$-\frac{1}{2h^3j^3}$**

8. $\left(\frac{2a^2b^4}{3a^3b}\right)^2$ **$\frac{4b^6}{9a^2}$**

9. $\frac{9a^2b^7c^3}{2a^5b^4c^5}$ **$\frac{9b^3}{2a^3c^2}$**

10. $\frac{-15xy^{-5}z^7}{-10x^{-4}y^6z^{-4}}$ **$\frac{3x^5z^{11}}{2y^{11}}$**

11. 3^{-4} **$\frac{1}{81}$**

12. $\left(\frac{5}{6}\right)^{-2}$ **$\frac{36}{25}$**

13. $a^5b^0a^{-7}$ **$\frac{1}{a^2}$**

14. $\frac{(-u^{-3}v^3)^2}{(u^3v)^{-3}}$ **u^3v^9**

15. $\left(\frac{a^3}{b^2}\right)^{-3}$ **$\frac{b^6}{a^9}$**

16. $\left(\frac{2x}{y^{-3}}\right)^{-2}$ **$\frac{1}{4x^2y^6}$**

17. $\frac{(-r)s^5}{r^{-3}s^{-4}}$ **$-r^4s^9$**

18. $\frac{28a^{-4}b^0}{14a^3b^{-1}}$ **$\frac{2b}{a^7}$**

19. $\frac{(j^2k^3m)^4}{(jk^4)^{-1}}$ **$j^9k^{16}m^4$**

20. $\left(\frac{-2x^4y}{4y^2}\right)^0$ **1**

21. $\left(\frac{-18x^0a^{-3}}{-6x^{-2}a^{-3}}\right)$ **$3x^2$**

22. $\left(\frac{2a^3b^{-2}}{2^{-1}a^{-5}b^3}\right)^{-1}$ **$\frac{b^5}{4a^8}$**

23. $\left(\frac{5n^{-1}m^2}{2nm^{-2}}\right)^0$ **1**

24. $\frac{(3ab^2c)^{-3}}{(2a^2bc^2)^2}$ **$\frac{1}{108a^7b^8c^7}$**