

7-2 Extra Practice Division Properties of Exponents

Simplify each expression. Assume that no denominator equals zero.

$$1. \frac{6^5}{6^4} \quad 6^1 \text{ or } 6$$

$$2. \frac{9^{12}}{9^8} \quad 9^4 \text{ or } 6561$$

$$3. \frac{x^4}{x^2} \quad x^2$$

$$4. \frac{r^3 t^2}{r^3 t^4} \quad \frac{1}{t^2}$$

$$5. \frac{m}{m^3} \quad \frac{1}{m^2}$$

$$6. \frac{9d^7}{3d^6} \quad 3d$$

$$7. \frac{12n^5}{36n} \quad \frac{n^4}{3}$$

$$8. \frac{w^4 x^3}{w^4 x} \quad x^2$$

$$9. \frac{a^3 b^5}{ab^2} \quad a^2 b^3$$

$$10. \frac{m^7 p^2}{m^3 p^2} \quad m^4$$

$$11. \frac{-21w^5 x^2}{7w^4 x^5} \quad -\frac{3w}{x^3}$$

$$12. \frac{32x^3 y^2 z^5}{-8xyz^2} \quad -4x^2 yz^3$$

$$13. \left(\frac{4p^7}{7r^2}\right)^2 \quad \frac{16p^{14}}{49r^4}$$

$$14. 4^{-4} \quad \frac{1}{4^4} \text{ or } \frac{1}{256}$$

$$15. 8^{-2} \quad \frac{1}{8^2} \text{ or } \frac{1}{64}$$

$$16. \left(\frac{5}{3}\right)^{-2} \quad \frac{9}{25}$$

$$17. \left(\frac{9}{11}\right)^{-1} \quad \frac{11}{9}$$

$$18. \frac{h^3}{h^{-6}} \quad h^9$$

$$19. k^0(k^4)(k^{-6}) \quad \frac{1}{k^2}$$

$$20. k^{-1}(\ell^{-6})(m^3) \quad \frac{m^3}{k\ell^6}$$

$$21. \frac{f^{-7}}{f^4} \quad \frac{1}{f^{11}}$$

$$22. \left(\frac{16p^5 w^2}{2p^3 w^3}\right)^0 \quad 1$$

$$23. \frac{f^{-5} g^4}{h^{-2}} \quad \frac{g^4 h^2}{f^5}$$

$$24. \frac{15x^6 y^{-9}}{5xy^{-11}} \quad 3x^5 y^2$$

$$25. \frac{-15t^0 u^{-1}}{5u^3} \quad -\frac{3}{u^4}$$

$$26. \frac{48x^6 y^7 z^5}{-6xy^5 z^6} \quad -\frac{8x^5 y^2}{z}$$