**7-2 Practice**

***Division Properties of Exponents***

**Simplify each expression. Assume that no denominator equals zero.**

 **1.** $\frac{8^{8}}{8^{4}}$ **2.** $\frac{a^{4}b^{6}}{ab^{3}}$ **3.** $\frac{xy^{2}}{xy}$

 **4.** $\frac{m^{5}np}{m^{4}p}$**5.** $\frac{5c^{2}d^{3}}{-4c^{2}d}$**6.** $\frac{8y^{7}z^{6}}{4y^{6}z^{5}}$

 **7.** $\left(\frac{4f^{3}g}{3h^{6}}\right)^{3}$ **8.** $\left(\frac{6w^{5}}{7p^{6}r^{3}}\right)^{2}$ **9.** $\frac{-4x^{2}}{24x^{5}}$

**10.** $x^{3}$($y^{-5}$)($x^{-8}$) **11.** *p*($q^{-2}$)($ r^{-3}$) **12.** $12^{-2}$

**13.** $\left(\frac{3}{7}\right)^{-2}$ **14.** $\left(\frac{4}{3}\right)^{-4}$ **15.** $\frac{22r^{3}s^{2}}{11r^{2}s^{-3}}$

**16.** $\frac{-15w^{0}u^{-1}}{5u^{3}}$ **17.** $\frac{8c^{3}d^{2}f^{4}}{4c^{-1}d^{2}f^{-3}}$ **18.** $\left(\frac{x^{-3}y^{5}}{4^{-3}}\right)^{0}$

**19.** $\frac{6f^{-2}g^{3}h^{5}}{54f^{-2}g^{-5}h^{3}}$ **20.** $\frac{-12t^{-1}u^{5}x^{-4}}{2t^{-3}ux^{5}}$ **21.** $\frac{r^{4}}{(3r)^{3}}$

**22.** $\frac{m^{-2}n^{-5}}{\left(m^{4}n^{3}\right)^{-1}}$ **23.** $\frac{\left(j^{-1}k^{3}\right)^{-4}}{j^{3}k^{3}}$ **24.** $\frac{(2a^{-2}b)^{-3}}{5a^{2}b^{4}}$

**25.** $\left(\frac{q^{-1}r^{3}}{qr^{-2}}\right)^{-5}$ **26.** $\left(\frac{7c^{-3}d^{3}}{c^{5}dh^{-4}}\right)^{-1}$ **27.** $\left(\frac{2x^{3}y^{2}z}{3x^{4}yz^{-2}}\right)^{-2}$

**28. BIOLOGY** A lab technician draws a sample of blood. A cubic millimeter of the blood contains $22^{3}$ white blood cells and $22^{5}$ red blood cells. What is the ratio of white blood cells to red blood cells?

**29. COUNTING** The number of three-letter “words” that can be formed with the English alphabet is $26^{3}$. The number of five-letter “words” that can be formed is $26^{5}$. How many times more five-letter “words” can be formed than three-letter “words”?