**Homework Practice**

***Negative Exponents***

**Write each expression using a positive exponent.**

 **1.** $8^{-5}$ **2.** $3^{-9}$ **3.** $z^{-2}$ **4.** $p^{-4}$

**Evaluate each expression.**

 **5.** $(-6)^{-5}$ **6.** $8^{-4}$ **7.** $2^{-9}$ **8.** $(-7)^{-9}$

**Write each fraction as an expression using a negative exponent.**

 **9.** $\frac{1}{2^{9}}$ **10.** $\frac{1}{64}$ **11.** $\frac{1}{e^{5}}$ **12.** $\frac{1}{7^{4}}$

**Simplify. Express using positive exponents.**

 **13.** $\frac{6^{5}}{6^{2}}$ **14.** $n^{-2}•n^{-3}$ **15.** $\frac{w^{3}}{w^{-1}}$ **16.** $\frac{k^{-4}}{k^{-6}}$

 **17. ROADS** A state highway that is $4^{4}$ miles long runs parallel to a smaller country road that is $4^{2}$ miles long. How many times longer than the country road is the state highway? Write the answer as a number with a positive exponent.

 **18. FUNDRAISERS** The hospital spent $9^{5}$ dollars on new medical equipment this year. Last year, they spent $9^{7}$ dollars. How many times more money did they spend last year than this year?

 **19. MEASUREMENT** 1 milligram is equal to $10^{-3}$ grams. Write this number using a positive exponent.

 **20. DISTANCE** A long-distance runner runs $2^{5}$ miles one week and $2^{7}$ miles the next week. How many times farther did he run in the second week than in the first week?