Name_____ Date_____

Evaluate the expression.

1. 3^{-4}

2. 32^0

3. $\dfrac{8^3}{8^5}$

4. $\dfrac{(-9)^4}{(-9)^7}$

5. $5^{-12} \bullet 5^{12}$

6. $\dfrac{1}{4^{-5}} \bullet \dfrac{1}{4^8}$

7. $6^{-1} \bullet 6^{-2}$

8. $\dfrac{2^6}{2^{-8} \bullet 2^{10}}$

9. One terameter equals 10^{12} meters. One micrometer equals 10^{-6} meter. One nanometer equals 10^{-9} meter.

   a. Find the product of one terameter and one micrometer, using only positive exponents.

   b. Find the quotient of one terameter and one micrometer, using only positive exponents.

   c. Find the product of one terameter and one nanometer, using only positive exponents.

   d. Find the quotient of one terameter and one nanometer, using only positive exponents.

   e. Find the quotient of one nanometer and one terameter, using only positive exponents.

   f. Find the quotient of one nanometer and one micrometer, using only positive exponents.

   g. Find the product of one nanometer and one micrometer, using only positive exponents.

Simplify. Write the expression using only positive exponents.

10. $8x^{-3}$

11. $5^{-3} \bullet m^6$

12. $\dfrac{7p^5}{p^{-1}}$

13. $\dfrac{10t^{-5}}{t^{-2}}$

14. $\dfrac{15d^4}{3d^9}$

15. $6w^{-2} \bullet 4w^2$