

## Operations with Scientific Notation

Score \_\_\_\_\_ Per \_\_\_\_\_

**Perform the following operations. Express your answer in scientific notation.**

1.  $(1.2 \times 10^5) + (5.35 \times 10^6)$

2.  $(1.33 \times 10^5) - (4.9 \times 10^4)$

3.  $(3.67 \times 10^2) - (1.6 \times 10^1)$

4.  $(6.0 \times 10^{-5}) \times (1.5 \times 10^{-8})$

5.  $(4.3 \times 10^8) \times (2 \times 10^6)$

6.  $(7.6 \times 10^3) + (4.0 \times 10^5)$

7.  $\frac{(7.8 \times 10^{-5})}{(1.2 \times 10^4)}$

8.  $\frac{(6.48 \times 10^5)}{(2.4 \times 10^4)(1.8 \times 10^{-2})}$

**Answer the following word problems. Express your answer in scientific notation.**

9. The 2012 world population was approximately 7 billion people. The 2012 United States population was approximately  $3 \times 10^8$  people. How many times larger was the world population than the U.S. population in 2012?
10. The speed of light is  $3 \times 10^8$  meters/second. If the sun is  $1.5 \times 10^{11}$  meters from the earth, how many seconds does it take the sun's light to reach the earth?
11. In July 2010, there were approximately  $5 \times 10^8$  Facebook users. A year later, there were approximately  $75 \times 10^7$  Facebook users. How many more users were there in 2011? Express your answer in scientific notation.
12. The body of a 150 lb person contains  $2.3 \times 10^{-4}$  lbs of copper. How much copper is contained in the bodies of 1200 such people?
13. The Earth moves around the sun at  $6.7 \times 10^4$  miles per hour. How many miles does the Earth travel after  $2.4 \times 10^3$  hours (or 100 days)?