

## Review Unit 2

1. Rewrite the following in scientific notation.
  - a. 433
  - b. 1,110,000,000
  - c. 0.0202
  - d. 0.000104
2. How many sig figs are in each of the numbers in question #1?
3. Rewrite the following as a decimal number.
  - a.  $1.98 \times 10^4$
  - b.  $3.894 \times 10^{-5}$
  - c.  $8.342 \times 10^5$
4. Which is longer, a piece of fabric 100 cm long or a piece 0.50 m long?
5. Indicate the number of sig figs in each of the following.
  - a. 12
  - b. 1098
  - c. 2000.
  - d.  $2.001 \times 10^3$
  - e. 0.0000101
6. Round off each of the following numbers to four sig figs.
  - a. 123,431
  - b. 1.2321
  - c. 550092
7. Evaluate each of the following, and write the answer to the appropriate number of sig figs.
  - a.  $(0.102)(0.0821)(273)/(1.01) =$
  - b.  $(0.14)(6.022 \times 10^{23}) =$
  - c.  $44.02 - 0.982 =$
8. Perform the following conversions utilizing dimensional analysis.
  - a. 363 ft to inches
  - b. 62.4 cm to inches
  - c. 38940 km to miles

9. What are the metric base units for length? Mass? Volume?
10. What is the mass of the material present, if the volume is 51.5 mL and the density is 8.9 g/mL?
11. How much heat is required to raise the temperature of 500.0 grams of water 25.2 °C?