NAME                                                                                    SECTION

1. Indicate the number of significant digits in each of the following measurements.

    a.  23.500 g          _____

    b.  100.35 mL         _____

    c.  $1.004 \times 10^{-7}$ m _____

    d.  0.00230 kg        _____

2. Round off the following numbers to the indicated number of significant figures.

    a.  0.0089346 kg (3 sig figs)          _____

    b.  96515 mL (3 sig figs)              _____

    c.  3.50492 m (3 sig figs)             _____

3. Determine the result to the correct number of significant figures.

    a.  $\left( \dfrac{3.2 \text{ cm} \times 1.23 \text{ cm} \times 0.5 \text{ cm}}{8.32 \text{ cm} \times 1.000 \text{ cm} \times 0.500 \text{ cm}} \right) =$ _____

    b.  $\left( \dfrac{2.420 \text{ g} + 15.6 \text{ g}}{5.31 \text{ g}} \right) =$ _____

    c.  $\left( \dfrac{6.00 \text{ g}}{16.1 \text{ mL} - 8.440 \text{ mL}} \right) =$ _____

4. Perform the following conversions (1 lb = 453.59 g; 1 L = 1.0567 qt; 1 inch = 2.54 cm):

   a.  100. km to miles (use at least 3 conversion factors).

   b.  A liquid has a critical temperature of 154.4 K; calculate the temperature in °F and °C.

   c.  The thickness of a human hair is approximately 70,000 nm; calculate the thickness in millimeters.

   d.  A typical soft drink container is 355 mL; determine the number of quarts of the soft drink container.

5. Perform the following conversion: The density of water is 1.00 g/cm$^3$. Convert to pounds/foot$^3$.