

## Dimensional Analysis Practice

Use dimensional analysis to answer each question. Record your solutions and notes in the spaces provided.

1. Find the number of centimeters in  $1.00 \times 10^2$  yards
2. Determine the number of meters in 1.00 miles.
3. The speed of light is  $1.86 \times 10^5$  miles per second. How many meters will light travel in 1.0 seconds?
4. Calculate the number of seconds in a year.
6. The density of mercury is 13.55 g/ml, and the density of gold is 19.32 g/ml.
  - a) What is the density of mercury in kg/L?
  - b) A 10.0 mL graduated cylinder is filled to 5.00 mL. A ring is placed in the graduated cylinder, and the water level rises to 5.15 mL. The ring is then dried and placed on a balance, and its mass is 2.8315g. Find the density of the ring.