- I. <u>CONVERSIONS (*Metric & Non-Metric*)</u> Perform the following conversions by showing the FACTOR LABEL METHOD. Show units in answer!

  - 2) 430 mL = \_\_?\_\_ L (*Scientific Notation*) 4) 10.0 L = \_\_?\_\_ mol (*1 mol* = 22.4 L)

## II. <u>SIGNIFICANT FIGURES</u> - Determine the correct number of significant figures (sig figs) in each measurement below.

- 5) 5306 g = \_\_\_\_ 7)  $1.0 \times 10^{-3} \text{ ms}$  = \_\_\_\_
- 6) 550 sec = \_\_\_\_\_ 8) 6.02 x 10<sup>23</sup> molecules = \_\_\_\_\_

## III. <u>ROUNDING</u> - Round the following numbers to the indicated number of significant figures.

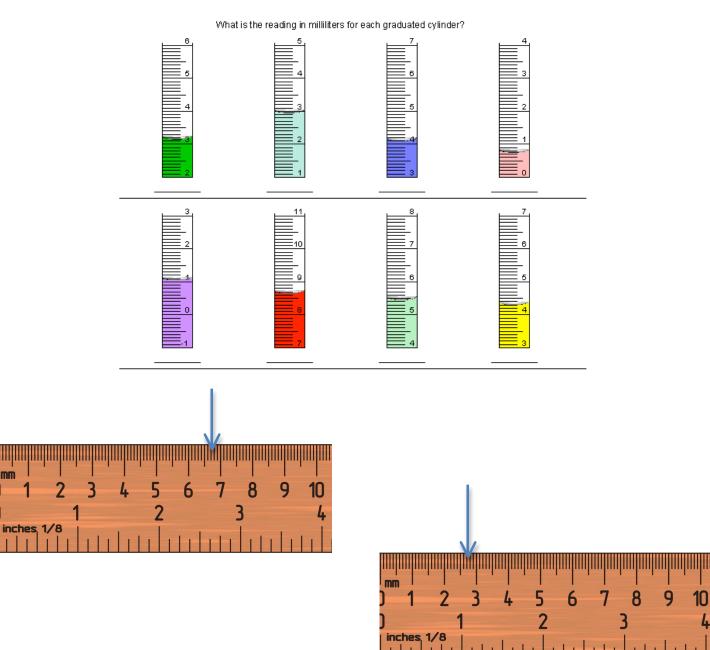
- 9)  $0.07782 \rightarrow (3 \text{ s.f.})$  (expressed in scientific notation)
- 10)  $140.85 \rightarrow (2 \text{ s.f.})$  (expressed in scientific notation)

## IV. <u>DENSITY / % ERROR</u> – Show all of your work for full credit.

- 11) A. What is the density of a metal that has a mass of 36.8 grams and a volume of 4.00  $\text{cm}^3$ ?
  - B. The accepted value of this metal is 8.90 g/cm<sup>3</sup>. What is the measurement's percent error?
  - C. What is the identity of this metal? (Hint: Look at your reference table)

12) A. The water level in a graduated cylinder is 25.0 mL. When a solid is put into the graduated cylinder, the new volume is 31.0 mL. If the solid has a mass of 27.9 grams, what is its density?

- B. The accepted value of this solid is 4.5 g/mL ( $1mL = 1cm^3$ ). What is the percent error?
- C. What is the identity of this solid? (*Hint: Look at your reference table*)
- V. LAB MEASUREMENTS Record the following measurements to the correct number of significant figures (sig figs). Include proper units (mL or cm).



mm