**Notes for Completing the Lab Write-Up for “Molar Volume of a Gas”**

1. You need to find the mass of your strip of Mg ribbon. You never put it on a balance, but you *did* find its length. You wrote down the length in cm. You need to convert this to m, and then convert this to grams using the conversion factor “1.27 g = 1.000 m of Mg ribbon”. (Recall that I weighed out 1 whole meter of Mg ribbon before the lab, and recorded its mass on the board.)

\*\*\* cm 🡪 m 🡪 g

1. Convert g (from #1) to mol using the periodic table.
2. Correct the P of the gas in the eudiometer to account for the fact that the gas you collected contained water vapor.
   1. The P in your eudiometer is equal to the P outside of the eudiometer (i.e., the atmospheric pressure) because you equalized the water levels (in the eudiometer and water column) before recording the gas volume.
   2. The P of the atmosphere (“barometer reading” in your data table on p.93) was 30.04 **INCHES** of Hg, but must be converted to **mm of Hg** in order for you to finish this lab report.
   3. Dalton’s Law: Ptot = PH2 + PH2O (g).
   4. You looked up PH2O (g) in the fat green book in class – “vapor pressure of water at observed temperature” in your data table.
3. QUESTIONS #4 AND #5: *Do not do #4 or #5 as written in the lab handout.* Instead, solve the combined gas law one time. This will answer both questions at once. You are doing this step to correct your volume to standard conditions (“STP”).



P1 = your corrected pressure from #3

V1 = the volume of H2 gas that you recorded in the Data Table (p.93)

T1 = the temperature that you recorded the Data Table (p.93), but it has to be converted to K first

P2 = standard pressure (must be in mm Hg)

V2 = what you are looking for here

T2 = standard temperature (must be in K)

1. Question six: Solve a proportion. You used only a tiny fraction of a mole of Mg, so you only produced a tiny fraction of one mole of H2. Therefore, find out how much your volume *would have been* if you *had* used a whole mole of Mg:

