Lab Pretest Term 1

(1) Report the volume with the correct number of sig figs and express the uncertainty:

(2) Which of the following measurements has a greater error associated with it, and why?
(A) 0.05 ± 0.01 g
(B) $10. \pm 1$ g

mL

Close-up view

Graduated cylinder

(3) If according to the theory from PV=nRT, the volume of hydrogen gas was supposed to be 0.04204 L, and you measured 41.59 ml, what was your percent yield, and what was the percent error?

(4) a) What was the main source of error in the oxygen lab?

b) Which collected test tube contains the purest oxygen?

c) Draw the setup used to collect oxygen generated by the decomposition of hydrogen peroxide catalyzed by KI.

d) Would this setup have succeeded if oxygen was more soluble in water? Why?

(5) a) In the hydrogen lab, what were the main error sources?

b) How were other errors eliminated through the design of the experiment---for example how did we correct for the fact that hydrogen gas was not pure? What about the effect of temperature on volume?
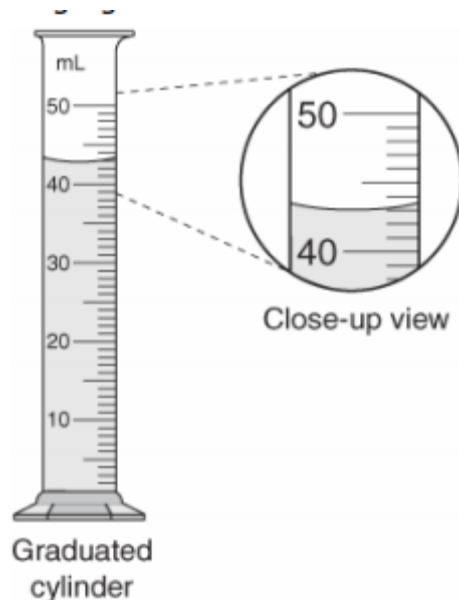
c) In the hydrogen lab, the gas was generated using acid and magnesium. A copper cage was placed around the magnesium. If you had used no cage at all or an iron cage instead of copper, the experiment would have failed in both cases. Explain.
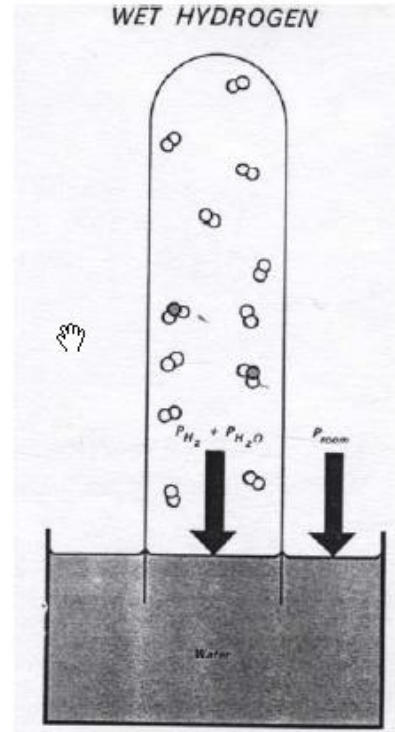
WET HYDROGEN

d) TRUE? Or FALSE?

If the level of the water outside the biuret was <u>higher</u> than the level of water inside the biuret, then the pressure of the gas collected > pressure outside the biuret

e) What was the purpose of generating the hydrogen gas and measuring it so accurately?

5.   a)   How does holding the bottom of the hand boiler make the liquid rise? (seemingly on its own)

b) Why does removing the hand let the fluid flow down again?