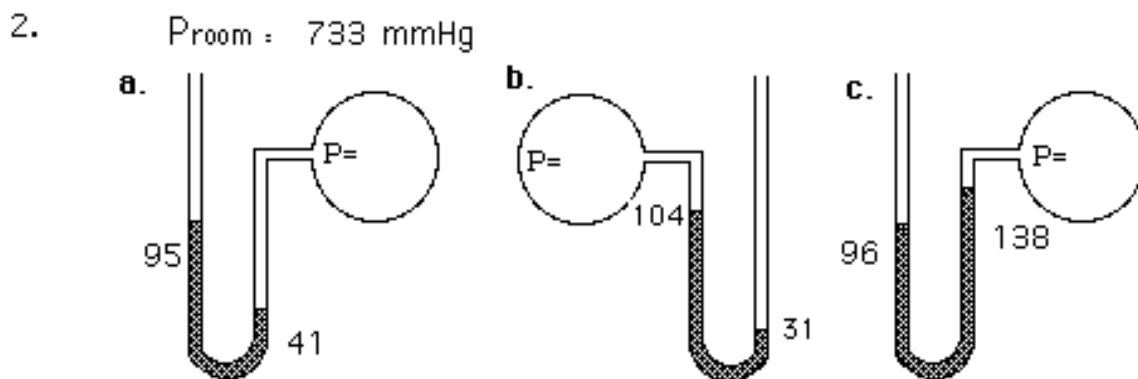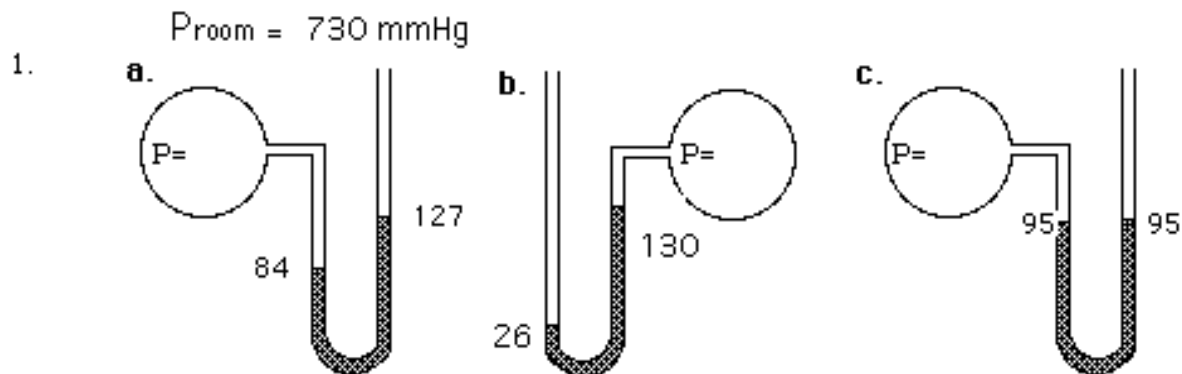# Unit 2 Worksheet 2B - Measuring Pressure

Problems 1 and 2. Calculate the pressure of the gas in the flask connected to the manometer. Show your calculation process in the space below the diagram. (with units!)

1.

Proom = 730 mmHg

a. P=   84   127

b. P=   26   130

c. P=   95   95

2.

Proom : 733 mmHg

a. P=   95   41

b. P=   104   31

c. P=   96   138

1a.                      1b.                      1c.

2a.                      2b.                      2c.

3.   a. What do we mean by atmospheric pressure? What causes this pressure?

b. What do we use to measure atmospheric pressure?   Explain how such device works.  Draw a diagram to illustrate.

c.  Why is the fluid in a barometer mercury, rather than water or another liquid?

d. Is atmospheric pressure the same everywhere on the surface of the earth? Why?

e. One standard atmosphere of pressure (SP) is equivalent to _____mmHg.

4.  Convert pressure measurements from one system of units to another in the following problems.

   1 atmosphere = 760 mmHg = 101.3 kPa = 14.7 psi (pounds per square inch)

a. 320 mmHg x ———————   =          atm

b.  30.0 psi x  ———————   =          mmHg

c.  92.0 kPa x ———————   =          atm

d. The barometric pressure in Breckenridge, Colorado (elevation 9600 feet) is 580 mm Hg.  How many atmospheres (atm)is this?