**1.)** Convert 539 torr to atm.

**2.)** A gas takes up 25.2 liters at 25oC. At 25oC, the gas can also take up 12.2 liters at 1500 torr. What was the pressure, in atm, of the original sample?

**3.)** A gas takes up 14.8 liters of 24oC. What temperature in kelvin is required to obtain a volume of 25.0 liters at constant pressure?

**4.)** How many moles of chlorine gas are present at 25oC, 762 torr, with a volume of 14.2 L?

**5.)** If "Bor" (thats the name of a person) has a sample of gas that has a volume of 8.2 liter at 25oC and 2 atm, how much volume will it take up if you decrease pressure to 1.5 atms and increase temperature to 100oC?

**6.)** 25 liters of gas A is pumped into a container at 25oC and 760 torr with 20 liters of gas B at 25oC and 700 torr. Calculate the total pressure when both gases are pumped into a tank with 10 liters at 25oC.

**7.)** Calculate the mole fraction of oxygen when 200 torr of air (760 torr total) is oxygen.

**8.)** KClO3 is decomposed by the following reaction:

2KClO3(s) ---> 2KCl(s) + 3O2(g)

The O2 produced was collected by the displacement of water at 22oC at a total pressure of 760 torr. The volume of gas collected was 1.20 liters, and the vapor pressure of water at 22oC is 21 torr. Calculate the partial pressure of O2 in the gas collected and the mass of KClO3 in the sample that was decomposed.

**9.)** Calculate the root mean square velocity of hydrogen gas at 25oC.

**10.)** What is the ratio of effusion between fluorine and chlorine?