**Homework #14 Chemistry 1114 due Wed 26 Oct 2016 10 pts (in class) Show your work !!**

**Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Given: 1 atm = 760 mm Hg = 760 torr = 15 psi**

***Round answers to 2 sig figs***

**1) How many torr in 0.01316 atm ? \_\_\_\_\_\_\_\_10.\_\_\_\_\_\_\_\_\_\_torr**

**P(torr)/0.01316 atm = 760 torr /1 atm**

**P(torr) = 760\*0.01316= 10 torr**

**2) How many psi in 253.333 torr ? \_\_\_\_\_\_\_\_\_5.0\_\_\_\_\_\_\_\_\_ psi**

**P(psi)/253.333 torr = 15 psi/760 torr**

**P(psi) = 253.333\*15/760=5**

**3) How many atm in 1.5 psi ? \_\_\_\_\_\_\_\_\_0.10\_\_\_\_\_\_\_\_\_\_\_ atm**

**P(atm)/1.5 psi = 1 atm/15 psi**

**P(atm) = 1.5\*1/15= 0.10**

**4) What gas quantity is held constant in the Combined Gas Law ?**

**gas moles (n)**

**5) A sample of O2 gas at constant temperature initially occupies a volume of 6 L at a**

 **pressure of 2 atm. What is the pressure if the volume increases to 12 L ? (2 pts)**

**P1V1=P2V2**

**6\*2= P2\*12=> P2 = 1 atm \_\_1\_\_\_\_\_atm =P2**

**6) A sample of He initially at 300 K occupies 6 L at 0.5 atm. What must the new temperature be if the volume decreases to 2 L and pressure of 1 atm ? (2 pts)**

**P1V1=P2V2**

 **T1 T2**

**0.5\*6 = 1\*2**

 **300 T2**

**T2 =2\*300/3= 200 K**

 **\_\_200\_\_\_\_K = T2**