**Mini-quiz #26 Chemistry 1114 section 2 (Fong) 7 Nov 2014 4 pts A**

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

**Pinitial(N2) =3 atm Pinitial (H2) = 7 atm**

**V­initial (N2) = 3 Vinitial(H2) =1**

**1) Two gas volumes initially separated**

**by a closed stopcock have the**

**individual volumes and pressures shown.**

**What will be the final pressure in the two volumes once open the stopcock and let the H2 and N2 mix ?**

**VN2,2 =3+1=4=> for N2: P1V1=3\*3=P2(N2)\*4=> P2(N2)= 9/4**

**VH2,2=1+3=4 => for H2: P1V1 = 7\*1=P2(H2)\*4=> P2(H2)= 7/4**

**Sum=16/4=4**

**Pfinal = \_\_\_\_\_4\_\_\_\_\_\_\_\_\_**

**2) A sample of gas weighing 5 grams occupies 1 L at 1.23 atm and 300 K. Given that R=0.082 atm**

**L/K mole what is the molecular weight of the gas ?**

**PV/RT=n= 1\*1.23/(300\*0.082)=0.05 mol => MW= 5/0.05 =100**

**MW(g/mol)=\_\_100\_\_\_\_\_**

**Mini-quiz #26 Chemistry 1114 section 2 (Fong) 7 Nov 2014 4 pts B**

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**Pinitial(N2) =2 atm Pinitial (H2) = 8 atm**

**V­initial (N2) = 3 Vinitial(H2) =1**

**1) Two gas volumes initially separated**

**by a closed stopcock have the**

**individual volumes and pressures shown.**

**What will be the final pressure in the two volumes once open the stopcock and let the H2 and N2 mix ?**

**VN2,2 =3+1=4=> for N2: P1V1=2\*3=P2(N2)\*4=> P2(N2)= 6/4**

**VH2,2=1+3=64=> for H2: P1V1 = 8\*1=P2(H2)\*4=> P2(H2)= 8/4**

**Sum=14/4=3.5**

**Pfinal = \_\_\_\_3.5\_\_\_\_\_\_\_\_\_\_**

**2) A sample of gas weighing 10 grams occupies 1 L at 1.23 atm and 300 K. Given that R=0.082 atm**

**L/K mole what is the molecular weight of the gas ?**

**PV/RT=n= 1\*1.23/(300\*0.082)=0.05 mol => MW= 10/0.05 =200**

**MW(g/mol)=\_200**