**Mole HomeWork 5**

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

**Do these problems and turn your completed work to class**

**Friday 9 October. You can put your work on a separate piece of paper or copy this off and do the work in the spaces provided. SHOW WORK or NO CREDIT**

**1) 2.0 grams of C are burned to make 7.333 g COx. What is the empiric formula for COx ? (at. mass C=12 g/mol; at mass O=16 g/mol)**

**Oxygen mass=7.333-2=5.333 g=> 5.333/16=mol O=0.333; mol C= 2.0 g/12=0.1666**

**Mol O/mol C= 0.333/0.166=2=> CO2**

 **\_\_CO2\_\_\_\_ COx formula**

**2) CaHb is burned in O2 to make 0.1111 g CO2 and 0.02273 g H2O.**

 **What is the empiric formula for CaHb ? (mol. mass CO2 =44 g/mol;**

 **mol. mass H2O=18 g/mol)**

**0.111 g CO2/44=0.00252 mol ; mol C/mol CO2 =2/1=x/0.00252=> x=0.00252**

**0.02273 g H2O/18=0.00126 mol ; mol H/mol H2O=2/1= y/0.00126=>y=2\*0.00126**

 **= 0.000252**

**Mol O/mol H=x/y= 0.00252/0.00252=1**

 **\_\_\_\_CH\_\_ CaHb formula**

**3) Balance me:**

 **\_2\_C8H18 + \_25\_\_O2🡪 \_16\_\_CO2 + \_18\_\_H2O**

**4) How many grams of O2 are consumed to make 8.25 g CO2**

 **In the reaction: C3H8 + 5O2 🡪 3CO2 + 4 H2O**

**mol. Mass C3H8=44; mol mass O2=32; mol. mass CO2 =44 g/mol; mol. mass H2O=18 g/mol)**

**8.25 g CO2/44=0.1875 mol CO2**

**Mol O2/mol CO2= 5/3=x/0.1875 => x= mol O2=0.1875\*5/3=0.3125 mol O=>**

**0.3125 mol O2\*32 g/mol=10 g**

 **\_10\_\_\_ g O2**