**Mole HomeWork 2**

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

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

**Wednesday 23 September. 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!!!!**

**The molecular mass of octane, C8H18, is 114 g/mol.**

**2.1 How many grams of octane are in 5.26316\*1022 molecules**

**of octane ?**

moles

114 g 6\*1023

mol

mass count

**convert molecule count🡪 mol (divide up): 5.26316\*1022/6\*1023 =0.087719 mol octane**

**convert mol count 🡪 mass (multiply down)**

**0.087719 mol\*114 g/mol =10 g**

**\_\_\_10\_\_ g octane**

**2.2. How many molecules of octane are in 0.0190 grams of**

**octane ? (1 mol count=6\*1023)**

moles

114 g 6\*1023

mol

mass count

**convert mass🡪 mol (divide up):**

**0.019 g /114 g mol-1=1.6666\*10-4 mol**

**convert mol count 🡪 molecule count (multiply down)**

**1.6666\*10-4 \*6\*1023=1\*1020**

**\_\_1020\_\_\_\_ molecules of octane**