NAME_____
Homework 7

Basic Skills:

- **Go back and forth between moles and numbers of atoms/molecules**
  - Convert the following quantities using Avagadro's number:

1. 3.45×10^{-12} mol C_3H_7OH =_____molecules C_3H_7OH

2. 7.59×10^{45} atoms of He =_____mol He

- **Calculate molar mass**
  - Give the molar mass for the following atoms:

1. Helium (He)	
2. Manganese (Mn)	
3. Mercury (Hg)	
4. Iodine (I)	
5. Carbon (C)	

  - Calculate the molar mass for the following compounds:

1. $Ca(NO_3)_2$

2. C_6H_{12}

3. SO_2Cl_2

- **Use molar mass as a conversion factor**
    - Convert the following using the information you calculated in the above section:

1. 45.00 g Mn =_____mol Mn

2. 98.23 mol C_6H_{12} =_____g C_6H_{12}

3. 1.598g SO_2Cl_2 = _____molecules SO_2Cl_2

4. 1.593×10^{32} atoms C = _____g C

- **Use a chemical formula as a conversion factor**
    - Convert the following:

1. Determine the number of moles of O in 27.05 mol CO_2.

2. How many grams of C are in 65.98g of C_6H_{12}?

3. How many grams of $Ca(NO_3)_2$ can you produce if you begin with 75.23g Ca?

4. How many grams of N are there in 25.9 g of N_2O_4?