Chapter 7 Problem III (Due EOP) Name _____

Mole Worksheet (Use 3 sig. figs and show math set-up for credit) Circle your final answer with units.

1. In a chemical reaction 20.3 L of NO gas reacted. How many grams of NO reacted? (Steps: Volume → mol → mass)

2. Given 0.250 mole of NH_3 gas, calculate the volume at STP. (Steps: _____)

3. Given 85.2 g of CO_2 gas, how many moles of CO_2 do you have? (Steps: _____)

4. You are given 40.0 L of Gas X at STP. The gas sample has a mass of 18.14 grams. Calculate the MW of Gas X.

5. Which contains more molecules? (Circle One)
   A) 10.0 g of CO_2 or B) 5.60 L of O_2 gas at STP.

6. How many atoms are in 30.0 g of Carbon? (Steps: _____)

7. Given 9.00×10^{22} molecules of He gas, what mass of He do you have? (Steps: _____)

8. You have a 2.00 L balloon filled with O_2 gas at STP. How many molecules of O_2 are in it? (Steps: _____)

9. 1.70 grams of Gas Y are found to be equal to 0.100 moles. Calculate the MW of Gas Y.

10. The gas in # 9 could be: CO, NH_3, CH_4, CO_2 (Circle one)

11. How many grams of CH_4 gas are in 2.00 L at STP? (Steps: _____)

12. A pure gold coin (Au) has a mass of 250.00 grams. How many Au atoms are in the coin? (Steps: _____)