MIXED MOLE PROBLEMS

Name _____

Solve the following problems.

1. How many grams are there in 1.5×10^{25} molecules of CO_2?

_____

2. What volume would the CO_2 in Problem 1 occupy at STP?

_____

3. A sample of NH_3 gas occupies 75.0 liters at STP. How many molecules is this?

_____

4. What is the mass of the sample of NH_3 in Problem 3?

_____

5. How many atoms are there in 1.3×10^{22} molecules of NO_2?

_____

6. A 5.0 g sample of O_2 is in a container at STP. What volume is the container?

_____

7. How many molecules of O_2 are in the container in Problem 6? How many atoms of oxygen?

_____

_____

PERCENTAGE COMPOSITION

Name _____

Determine the percentage composition of each of the compounds below.

1. $KMnO_4$

   K = _____

   Mn = _____

   O = _____

2. HCl

   H = _____

   Cl = _____

3. $Mg(NO_3)_2$

   Mg = _____

   N = _____

   O = _____

4. $(NH_4)_3PO_4$

   N = _____

   H = _____

   P = _____

   O = _____

5. $Al_2(SO_4)_3$

   Al = _____

   S = _____

   O = _____

Solve the following problems.

6. How many grams of oxygen can be produced from the decomposition of 100. g of $KClO_3$? _____

7. How much iron can be recovered from 25.0 g of Fe_2O_3? _____

8. How much silver can be produced from 125 g of Ag_2S? _____