

REVIEW QUESTIONS

Chapter 5

1. Two samples of a compound containing carbon and chlorine are decomposed and the following data was obtained:

Sample 1	38.9 g C	448 g of Cl
Sample 2	14.8 g C	134 g of Cl

Based on the data obtained, are these samples the same compound? Show why or why not.

2. A 7.83 g sample of HCN contains 2.90 g of H and 4.06 g of N. Find the mass of carbon in a sample of HCN with a mass of 3.37 g.

3. For the compounds listed below, determine the number of elements and the total number of atoms in each:

a) $C_{17}H_{22}ClNO_4$ # of elements: _____ # of atoms: _____

b) $(NH_4)_2Cr_2O_7$ # of elements: _____ # of atoms: _____

c) $CuSO_4 \cdot 5 H_2O$ # of elements: _____ # of atoms: _____

4. Complete the table below with the missing information:

Formula	No. of ions	No. of Oxygen atoms	No. of Hydrogen atoms
$\text{Al}_2(\text{HSO}_4)_3$			
$\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$			
$(\text{NH}_4)_3\text{PO}_4$			

5. Name each compound shown below:

a) KClO_3 _____

b) $\text{Fe}(\text{OH})_3$ _____
(Stock) (Classical)

c) Ag_2S _____

d) BrF_5 _____

e) $\text{Pb}(\text{CO}_3)_2$ _____
(Stock) (Classical)

f) NI_3 _____

6. Write formula for each compound below:

a) cupric chlorite _____

b) tetraphosphorus triselenide _____

c) iron(II) phosphate _____

d) magnesium nitride _____

e) ammonium carbonate _____

7. Is each name correct for the given formula? If not, provide the correct name.

- a) HNO_3 (aq) hydrogen nitrate
- b) CaI_2 calcium diiodide
- c) $\text{Pb}(\text{CO}_3)_2$ lead(II) carbonate
- d) PCl_5 phosphorus chloride

8. Complete the table below with the missing information:

Formula	Type of Compound (Ionic, Molecular, Acid)	Name
N_2H_4		
		potassium nitrate
H_2CO_3		
		carbon tetrabromide