REVIEW QUESTIONS
Chapter 5

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

<table>
<thead>
<tr>
<th>Sample</th>
<th>Mass of C</th>
<th>Mass of Cl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>38.9 g</td>
<td>448 g</td>
</tr>
<tr>
<td>Sample 2</td>
<td>14.8 g</td>
<td>134 g</td>
</tr>
</tbody>
</table>

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\textsubscript{17}H\textsubscript{22}ClNO\textsubscript{4}  
      # of elements:_______  # of atoms:_______

   b) (NH\textsubscript{4})\textsubscript{2}Cr\textsubscript{2}O\textsubscript{7}  
      # of elements:_______  # of atoms:_______

   c) CuSO\textsubscript{4}•5 H\textsubscript{2}O  
      # of elements:_______  # of atoms:_______
4. Complete the table below with the missing information:

<table>
<thead>
<tr>
<th>Formula</th>
<th>No. of ions</th>
<th>No. of Oxygen atoms</th>
<th>No. of Hydrogen atoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al(HSO₄)₃</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ca(C₂H₃O₂)₂</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(NH₄)₃PO₄</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Name each compound shown below:
   a) KClO₃ ________________
   b) Fe(OH)₃ ________________
   c) Ag₂S ________________
   d) BrF₅ ________________
   e) Pb(CO₃)₂ ________________
   f) Ni₃ ________________

6. Write formula for each compound below:
   a) Copper(II) 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) HNO₃ (aq)    hydrogen nitrate

   b) CaI₂         calcium diiodide

   c) Pb(CO₃)₂     lead(II) carbonate

   d) PCl₅         phosphorus chloride

8. Complete the table below with the missing information:

<table>
<thead>
<tr>
<th>Formula</th>
<th>Type of Compound (Ionic, Molecular, Acid)</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₂H₄</td>
<td></td>
<td>potassium nitrate</td>
</tr>
<tr>
<td>H₂CO₃</td>
<td></td>
<td>carbon tetrabromide</td>
</tr>
</tbody>
</table>