

REVIEW QUESTIONS

Chapter 2

1. Complete the missing information in the table below:

Symbol				$^{31}\text{P}^{3-}$	$^{40}\text{Ca}^{2+}$
Protons	23		28		
Neutrons		45	31		
Electrons		36			
Net Charge	0	2-	2+		
Atomic No.					
Mass No.	51				

2. The following are the results of analysis of two samples containing phosphorous and oxygen. From these results determine if the two samples are the same compound. If the compounds are different, show that the data follows the law of multiple proportions.

	<u>Mass of P</u>	<u>Mass of O</u>
Sample A	2.581 g	3.322 g
Sample B	3.718 g	2.881 g

3. Using only a periodic table, assign charges for each ion below, then complete the table with formulas and names for compounds formed by the combination of each cation and anion.

	Ca ____	K ____	Al ____	NH ₄ ____
S ____				
Cl ____				
N ____				
NO ₂ ____				
SO ₄ ____				
NO ₃ ____				
CO ₃ ____				
ClO ₃ ____				
OH ____				
PO ₄ ____				

4. Fill in the missing name or formula for each compound listed below. Fill in column 1 without using any notes, and then fill in column 2 with the use of notes.

	1	2
Barium nitrate		
Ferrous chloride		
Silver hydroxide		
Strontium phosphate		
Copper(II) acetate		
Zinc nitrite		
Potassium sulfite		
Ammonium carbonate		
Iodine heptafluoride		
Bromine trifluoride		
CuClO_4		
Ag_2SO_4		
N_2O_5		
Hg_2I_2		
PbO_2		
OF_2		

5. For each compound shown below, determine if the name or formula is incorrect, and write the correct form in the space provided:

- | | | |
|-------------------------------|----------------------|-------|
| a) Ag_2S | Disilver sulfide | _____ |
| b) MgOH | Magnesium hydroxide | _____ |
| c) $\text{Ca}(\text{NO}_3)_2$ | Calcium (II) nitrate | _____ |
| d) SnO_2 | Tin (II) oxide | _____ |
| e) PbS | Lead sulfide | _____ |
| f) ZnCl_2 | Zinc dichloride | _____ |
| g) SO_2 | Sodium dioxide | _____ |
| h) CaSO_4 | Calcium sulfide | _____ |
| i) Ba_2O | Barium oxide | _____ |
| j) Cu_2O | Copper (II) oxide | _____ |

6. Balance the following equations by providing the missing coefficients:

- a) $\text{___ NH}_4\text{NO}_3 \rightarrow \text{___ N}_2\text{O} + \text{___ H}_2\text{O}$
- b) $\text{___ Mg}_3\text{N}_2 + \text{___ H}_2\text{O} \rightarrow \text{___ Mg}(\text{OH})_2 + \text{___ NH}_3$
- c) $\text{___ NCl}_3 + \text{___ H}_2\text{O} \rightarrow \text{___ NH}_3 + \text{___ HOCl}$
- d) $\text{___ C}_5\text{H}_{10}\text{O}_2 + \text{___ O}_2 \rightarrow \text{___ CO}_2 + \text{___ H}_2\text{O}$
- e) $\text{___ (NH}_4)_2\text{Cr}_2\text{O}_7 \rightarrow \text{___ N}_2 + \text{___ Cr}_2\text{O}_3 + \text{___ H}_2\text{O}$
- f) $\text{___ PCl}_5 + \text{___ H}_2\text{O} \rightarrow \text{___ H}_3\text{PO}_4 + \text{___ HCl}$