SNC 2DI Date: _____

Chemistry Unit Review

1. Key Terms

At the end of each chapter there is a list of key vocabulary.

Ch. 5 Chemical and Their Properties – pg. 215
Ch. 6 Chemical and Their Reactions – pg. 257
Ch. 7 Acids and Bases – pg. 293

Understand the meaning of each term and be able to recognize a definition.

2. Compare the sub-atomic particles:

a) protons are found in the _____, have a charge of _____ and a mass of _____

b) neutrons are found in the _____, have a charge of _____ and a mass of _____

c) electrons are found in the _____, have a charge of ___ and a mass of _____

3. What does each of the following terms tell us about an atom?

(a) atomic number:

_____

(b) mass number: _____

(c) Group number: _____

(d) neutral atom: _____

4. Complete the following chart:

	Calcium	Bromine	Cesium	Argon	Fluorine
Period					
Group Number					
# Valence Electrons					
Group Name					
Lewis Dot					

5. Complete the following chart on types of compounds:

Characteristic	Ionic Compound	Molecular Compound
Types of atoms involved		
Type of bond		
Electrons (shared/transferred)		
Dissolve in water?		
Conducts electricity?		
Example		

6. Show the bonding for the following compounds:

Chemcial Compound	Type of Compound	Lewis Dot Diagram
$CaCl_2$		
H_2O		
Al_2P_3		
NH_3		

7. Complete the following chart:

Compound	Name	Name	Compound
NaCl		Calcium nitrate	
$Mg_3(PO_4)_2$		Iron (III) chloride	
P_2O_5		Hydrochloric acid	
H_2SO_4		Sulphur trioxide	
$Cu(OH)_2$		Gold (I) sulphate	

8. Balance the following chemical reactions and classify each reaction.

(a) ____Cu + ____O_2 → ____Cu_2O _____

(b) ____XeF_6 + ____H_2O → ____XeO_3 + ____HF _____

(c) ____Al + ____HCl → ____H_2 + ____$AlCl_3$ _____

(d) ____PCl_3 + ____H_2S → ____P_2S_3 + ____HCl _____

(e) ____PH_3 → ____H_2 + ____P _____

(f) ____Cu + ____S_8 → ____Cu_2S _____

(g) ____SnO → ____Sn + ____O_2 _____

(h) ____$Cu(NO_3)_2$ + ____Fe → ____$Fe(NO_3)_3$ + ____Cu _____

9. Complete the following reaction:

$Mg + CuCl_2$ →

(a) write a balanced chemical equation

(b) what type of reaction is this?

10. How do you recognize each type of reaction?

(a) synthesis has only one _____

(b) decomposition has only one _____

(c) in _____ displacement, one element takes the place another element in a compound

(d) in _____ displacement, the ions from both compounds “change partners”

11. Explain the difference between acids and bases:

Property	Acid	Base
Ion that is present in solution		
Reactivity with metals		
Electrical Conductivity		
Taste		
Feel		
pH Range		
Chemcial indicatiors: Phenolphthalein will turn? Bromothymol blue will turn? Litmus paper will turn?		

12. Refer to the information in the chart below.

(a) the strongest acid is _____

(b) the strongest base is _____

(c) the weakest acid is _____

(d) the weakest base is _____

(e) a neutral substance is _____

(f) which is stronger: hair remover or soap? _____ by how much? _____

(g) which is stronger, apple juice or folic acid? _____ by how much? _____

Substance	**pH**
Red wine	3.8
Hair remover	11
Apple juice	3.0
Soap	8.0
Distilled water	7.0
Folic acid	5.0
Liquid bleach	12.4

13. What happens when a base and an acid are mixed together? What type of reaction is this? Write down the balanced chemical equation that describes this reaction.

15. Complete the Chemistry Unit Review pg. 302 #1-54.