Answers Science 9 Chemistry Unit Exam Review

1. Label each of the following properties as physical or chemical:
   a. Physical
   b. Physical
   c. Chemical
   d. Chemical
   e. Chemical

2. For each of the following state which physical property is being described
   a. Boiling Point
   b. State of Matter
   c. Viscosity
   d. Crystal Form
   e. Malleable
   f. Solubility
   g. Hardness
   h. Density

3. Fill in the blanks in the following sentences with a word or phrase to make the sentence correct.
   a. Metals
   b. Positively
   c. Neutral, nucleus
   d. Protons, electrons

4. State whether each of the following changes is a physical change or a chemical change.
   a. Physical
   b. Chemical
   c. Chemical
   d. Physical
   e. Chemical
   f. Physical
   g. Physical
   h. Physical

5. State the type of atoms and the numbers of each type of atoms present in the following

$MgCl_2$

| Element | Number of Atoms |
|---|---|
| Magnesium | 1 |
| Bromine | 2 |

$Cu_3(PO_4)_2$

| Element | Number of Atoms |
|---|---|
| Copper | 3 |
| Phosphorous | 2 |
| Oxygen | 8 |

NaOH

| Element | Number of Atoms |
|---|---|
| Sodium | 1 |
| Oxygen | 1 |
| Hydrogen | 1 |

$2CaCl_2$

| Element | Number of Atoms |
|---|---|
| Calcium | 2 |
| Chlorine | 4 |

$3Al(OH)_3$

| Element | Number of Atoms |
|---|---|
| Aluminum | 3 |
| Oxygen | 9 |
| Hydrogen | 9 |

$2Ca(C_2H_3O_2)_2$

| Element | Number of Atoms |
|---|---|
| Calcium | 2 |
| Carbon | 8 |
| Hydrogen | 12 |
| Oxygen | 8 |

6. Write the formula, name and draw the Bohr diagram to show the compound formed by each of the following combinations of elements:
   a. Sodium and sulfur
   b. Lithium and fluorine
   c. Aluminum and oxygen

7. Complete the blanks in the following table:

| Element | Symbol | Atomic # | Mass # | Standard Atomic Notation | # of protons | # of electrons | # of neutrons |
|---|---|---|---|---|---|---|---|
| **Fluroine** | **F** | 9 | 19 | **$F^{19}_{9}$** | **9** | **9** | **10** |
| Calcium | **Ca** | **20** | **40** | **$Ca^{40}_{20}$** | 20 | **20** | 21 |
| **Iron** | Fe | **26** | 56 | **$Fe^{56}_{26}$** | **26** | 26 | **30** |
| **Bromine** | **Br** | 35 | **80** | **$Br^{80}_{35}$** | **35** | **35** | 45 |

8. Draw Bohr diagrams for each of the following as elements and ions.
   a. Beryllium b. Oxygen c. Chlorine d.Magnesium