

Chemistry Review #1
Periodic Table, Ions, and Chemical Formulas

Part A – True/False

Some of the statements are false; some are true. Write T to the left of the statement if it is true. If the statement is false, write F.

1. _____ Each shell of electrons around an atom can hold up to eight electrons.
2. _____ A positively charged ion is called a cation.
3. _____ Valence electrons are located in the outermost electron shell of the atom.
4. _____ Lithium oxide is a molecular compound.
5. _____ A covalent bond forms when atoms share electrons.

Part B – Fill in the Blanks

1. When nitrogen combines with oxygen a/an _____ bond is the result.
2. An anion is an atom that has _____ electrons.
3. All metals _____ electrons to become _____ charged ions.
4. A metal and a non-metal combine to form a/an _____ compound.
5. The chemical symbol for chlorine gas is _____.

Part C – Extended Answers

Answer the following questions in the spaces provided.

1. Draw electron dot diagrams for each of the following elements or ions.

a) Li	b) Cl ⁻
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2. Draw an electron dot diagram for the following molecular compounds.

a) O ₂	b) CO ₂
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3. Write the chemical formula for each of the following compounds.

- a) magnesium iodide _____
- b) aluminum oxide _____
- c) nitrogen dioxide _____
- d) silicon tetrachloride _____
- e) dinitrogen pentoxide _____
- f) copper(II) sulfide _____
- g) iron(IV) oxide _____
- h) sodium nitrate _____
- i) ammonium sulfate _____
- j) lead(II) nitrate _____

4. Write the chemical name of the following compounds.

a) MgI_2 _____

b) LiCl _____

c) Be_3N_2 _____

d) CH_4 _____

e) N_2O_4 _____

f) P_5O_{10} _____

g) CuCl_2 _____

h) FeO _____

i) H_2SO_4 _____

j) $\text{Pb}(\text{NO}_3)_2$ _____