

Name: KEY

## WP Practice

### Exam 3: Ionic and Covalent Compounds

(Also review unit 3 and unit 4 pretest packets and naming assignments)

1. Write the name (IUPAC rules) for the following compounds:

a.  $K_2S$  potassium sulfide

e.  $TiCl_4$  titanium(IV) chloride

b.  $P_4O_{10}$  tetraphosphorus decoxide

f.  $MgCr_2O_7$  magnesium dichromate

c.  $Fe_2O_3$  iron(III) oxide

g.  $OF_2$  oxygen difluoride

d.  $SiCl_4$  silicon tetrachloride

h.  $Ba(HCO_3)_2$  barium bicarbonate  
(or barium hydrogen carbonate)

2. Write the formula for the following:

a. magnesium sulfate  $MgSO_4$

e. mercury(II) sulfide  $HgS$

b. sodium selenide  $Na_2Se$

f. tin(IV) nitrite  $Sn(NO_2)_4$

c. dinitrogen monoxide  $N_2O$

g. calcium hydroxide  $Ca(OH)_2$

d. sulfur hexafluoride  $SF_6$

h. tetraphosphorus trisulfide  $P_4S_3$

3. Write the name or the formula for the following acids:

a.  $HCl$  hydrochloric acid

e. chloric acid  $HClO_3$

b.  $HNO_3$  nitric acid

f.  $H_2CO_3$  carbonic acid

c. sulfuric acid  $H_2SO_4$

g. hydrosulfuric acid  $H_2S$

d.  $HClO_4$  perchloric acid

h. acetic acid  $HC_2H_3O_2$   
(or  $CH_3COOH$ )

4. The term which best describes a substance made of cations and delocalized electrons is

- A) covalent compound
- B) molecule
- C) ionic solid
- D) metal
- E) cation

5. The term which best describes a substance made of metal cations and nonmetal anions is

- A) covalent compound
- B) molecule
- C) ionic solid
- D) metal
- E) cation

6. A double bond is a \_\_\_\_\_ bond that involves the sharing of \_\_\_\_\_ electrons.

- A) covalent; two
- B) covalent; four
- C) ionic; two
- D) ionic; six
- E) covalent; six

7. Define the following terms:

- a. diatomic elements: elements found in nature as pairs of atoms (BrINClHOF)
- b. molecule: two or more atoms covalently bonded
- c. covalent bond: sharing of electrons between nonmetals
- d. electronegativity: the ability of an atom to attract electrons in a chemical bond
- e. polar covalent: unequal sharing
- f. nonpolar covalent: equal sharing
- g. coordinate covalent bond: when one atom supplies both electrons in a covalent bond