

Chapter 6 Pretest
Chemical Names and Formulas

Name _____

1. Give the name and symbol of the ion formed when
 - a) a chlorine atom gains one electron.
 - b) a potassium atom loses one electron.
 - c) an oxygen atom gains two electrons.
 - d) a barium atom loses two electrons.
2. How many electrons are lost or gained in forming each ion?
 - a) Mg^{+2}
 - b) Br^-
 - c) Ag^+
 - d) Fe^{+3}
3. Classify each of the following as a cation, anion, or atom.

a) Be	e) O^{-2}
b) Na^+	f) Ca^{+2}
c) Cu^{+2}	g) Cs^+
d) I^-	h) Ne
4. Classify each of the following as a molecular compound or an ionic compound.

a) CO_2	d) H_2O
b) N_2	e) MgCl_2
c) NaCl	
5. What types of elements tend to combine to form molecular compounds.
6. Sulfur forms two molecular compounds with oxygen. Compound A contains 3.505 g of sulfur combined with 3.810 g of oxygen. Compound B contains 6.553 g of sulfur combined with 10.743 g of oxygen. What is the lowest whole-number mass ratio of sulfur that combines with a given mass of oxygen?

7. Nitrogen reacts with hydrogen to form two compounds. Compound A contains 18.8 g of nitrogen for each 2.7 g hydrogen. Compound B contains 13.3 g of nitrogen for each 2.9 g hydrogen. What is the mass ratio of nitrogen per gram of hydrogen in the two compounds?

8. Write the formulas for these compounds.

a) magnesium oxide

i) aluminum chloride

b) tin (II) fluoride

j) sodium sulfide

c) potassium iodide

k) sodium phosphate

d) potassium sulfide

l) sulfur dioxide

e) tin (IV) chloride

m) nitric acid

f) dihydrogen sulfide

n) calcium oxide

g) nitrogen tribromide

o) potassium dichromate

h) dichlorine monoxide

p) phosphoric acid

9. Write the formulas for the compounds formed from these pairs of ions.

a) Ba^{+2} , Cl^-

d) K^+ , Br^-

b) Ag^+ , I^-

e) Al^{+3} , O^{-2}

c) Ca^{+2} , S^{-2}

f) Fe^{+2} , O^{-2}

10. Name the following compounds.

a) Mn_2O_3

g) Na_3PO_4

b) Li_3N

h) NiCl_2

c) CaCl_2

i) CaS

d) SrBr_2

j) CO_2

e) NiCl_2

k) PCl_5

f) K_2S

l) CuI

11. Complete this table by writing the correct formulas for the compounds formed by combining positive and negative ions.

	SO_4^{-2}	NO_3^-	OH^-	PO_4^{-3}
Ca^{+2}				
Al^{+3}				
Na^+				
Pb^{+4}				

12. Name the following compounds.

- a) K_3PO_4
- b) $\text{Al}(\text{OH})_3$
- c) NaHSO_4
- d) HgO
- e) N_2O_5
- f) NBr_3
- g) PI_3
- h) $(\text{NH}_4)_2\text{SO}_4$