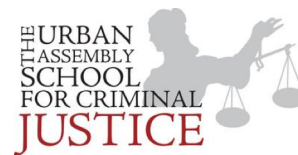


Name: _____ Date: _____

Chemistry ~ Ms. Hart

Class: Anions or Cations



5.4 Polyatomic Ions and Covalent Bonding

Part I:

Directions - For each question: Remember - All atoms must have a complete outer shell!

- A) Use the criss-cross method to balance the charge and determine the formula.
- B) Write the name of the compound formed.

Example:

- 1) Mg^{+2} & OH^- : a) $\text{Mg}(\text{OH})_2$ b) Magnesium hydroxide
- 2) SO_4^{-2} and Mg^{+2} :
- 3) Na^+ and PO_4^{-3}
- 4) Ba^{+2} and CO_3^{-2}
- 5) Cu^{+2} and NO_3^-
- 6) NH_4^+ and N^{-3}

Part II:

For each question: Write the Name for the following compounds. Hint: You will need to determine the oxidation number of the transition metal.

- 7) Fe_2O_3
- 8) CuClO_4
- 9) HgO
- 10) ZnSO_4

CHALLENGE QUESTIONS:

Write the formula and name for the compounds formed from the ions below:

- 11) CH_3COO^- and Na^+
- 12) NH_4^+ and OH^-

If the name of the compound is given, write the formula. If the formula is given, write the name.

1. CF_4 _____
2. N_2O_5 _____
3. CS_2 _____
4. SO_3 _____
5. P_4O_8 _____
6. iodine tribromide _____
7. chlorine dioxide _____
8. sulfur hexafluoride _____
9. difluorine octachloride _____
10. tribromine nonatelluride _____
11. H_2O _____
12. P_2S_4 _____
13. N_2O_4 _____
14. XeF_4 _____
15. Si_4 _____
16. carbon dioxide _____
17. trinitrogen hexabromide _____
18. diiodine heptaselenide _____
19. CO _____
20. dicarbon octafluoride _____
21. P_4O_{10} _____
22. Si_3N_4 _____
23. Cl_2S_7 _____
24. NBr_3 _____
25. phosphorus trichloride _____
26. PI_3 _____
27. disulfur trioxide _____
28. PCl_5 _____
29. diiodine dichloride _____
30. dinitrogen monoxide _____
31. I_4O_9 _____
32. dihydrogen monoxide _____