

From last nite's HW,

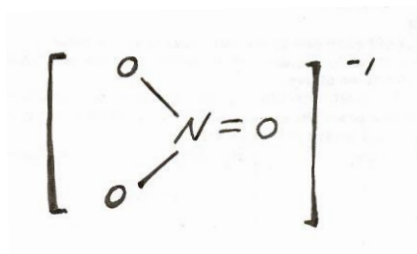
(e) lead(II) nitrate  $Pb_3N_2$  ????

No sir! It's ate not ide.

GO TO TABLE E: **Selected Polyatomic Ions**

**Aim: How do we determine the formulas of compounds containing "polys"?**

**polyatomic ion**- many atoms with a charge



"nitrate" ion

### I. **CRISS-CROSS** with "POLYS"

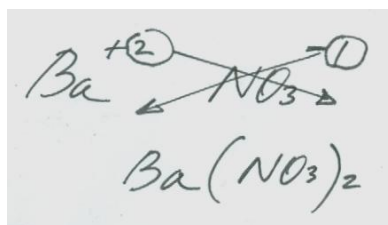
- 1) To get the formula, "criss-cross" the oxidation states treating the poly as one atom.

(e) lead(II) nitrate



- 2) If there is more than one poly, use **parentheses**.

barium nitrate



This means that there is **one**  $Ba^{+2}$  ion and **two**  $ClO_3^{-1}$  ions in a unit of this compound.



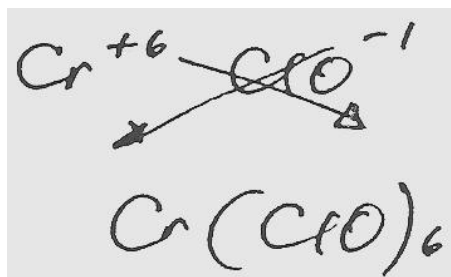
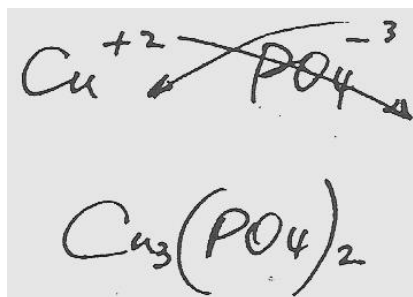
"cut & paste"

More Practice

**given name, write formula:**

copper (II) phosphate

chromium (VI) hypochlorite



Let's go to today's handout: Writing Formulas from Names

### WRITING FORMULAS FROM NAMES

Write the formulas of the following compounds.

- |                               |                           |                |
|-------------------------------|---------------------------|----------------|
| 1. ammonium phosphate         | $(NH_4)^{+1}$ $PO_4^{-3}$ | $(NH_4)_3PO_4$ |
| 2. Iron (II) oxide            | $Fe^{+2}$ $O^{-2}$        | $FeO$          |
| 3. Iron (III) oxide           | $Fe^{+3}$ $O^{-2}$        | $Fe_2O_3$      |
| * 4. carbon monoxide          |                           |                |
| 5. calcium chloride           | $Ca^{+2}$ $Cl^{-1}$       | $CaCl_2$       |
| 6. potassium nitrate          | $K^{+1}$ $NO_3^{-1}$      | $KNO_3$        |
| 7. magnesium hydroxide        | $Mg^{+2}$ $OH^{-1}$       | $Mg(OH)_2$     |
| 8. aluminum sulfate           | $Al^{+3}$ $SO_4^{-2}$     | $Al_2(SO_4)_3$ |
| 9. copper (II) sulfate        | $Cu^{+2}$ $SO_4^{-2}$     | $CuSO_4$       |
| 10. lead (IV) chromate        | $Pb^{+4}$ $CrO_4^{-2}$    | $Pb(CrO_4)_2$  |
| * 11. diphosphorus pentoxide  |                           |                |
| 12. potassium permanganate    | $K^{+1}$ $MnO_4^{-1}$     | $KMnO_4$       |
| 13. sodium hydrogen carbonate | $Na^{+1}$ $HCO_3^{-1}$    | $NaHCO_3$      |
| 14. zinc nitrate              | $Zn^{+2}$ $NO_3^{-1}$     | $Zn(NO_3)_2$   |
| 15. aluminum sulfite          | $Al^{+3}$ $SO_3^{-2}$     | $Al_2(SO_3)_3$ |

