

Naming & Writing Formulas Review!

A. Write the formula and name the ionic compounds.

1. K_2SO_4 ~ potassium sulfate
2. NaI ~ sodium iodide
3. $\text{Cr}(\text{NO}_3)_3$ ~ chromium (III) nitrate
4. Ca_3N_2 ~ calcium nitride
5. CuS ~ copper (II) sulfide
6. Ag_2O ~ silver oxide
7. $(\text{NH}_4)_2\text{SO}_4$ ~ ammonium sulfate

B. Name the following compounds. Identify whether they are ionic or molecular (covalent) compounds.

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|-------------------------------------|------------------------------------|
| 1. calcium carbonate ~ ionic | 6. barium fluoride ~ ionic |
| 2. hydrogen monochloride ~ covalent | 7. iron (II) oxide ~ ionic |
| 3. lead (II) chromate ~ ionic | 8. dichlorine heptoxide ~ covalent |
| 4. dinitrogen tetroxide ~ covalent | 9. cobalt (II) hydroxide ~ ionic |
| 5. carbon tetrachloride ~ covalent | 10. nitrogen triiodide ~ covalent |

C. Write the chemical formulas and identify whether they are ionic or molecular (covalent).

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|--------------------------------------|--|
| 1. IO_2 ~ covalent | 8. SO_2 ~ covalent |
| 2. PCl_5 ~ covalent | 9. K_2SO_3 ~ ionic |
| 3. BeCl_2 ~ ionic | 10. CaBr_2 ~ ionic |
| 4. NaI ~ ionic | 11. NO_2 ~ covalent |
| 5. Fe_2O_3 ~ ionic | 12. $\text{Sn}(\text{CN})_4$ ~ ionic |
| 6. N_2H_4 ~ covalent | 13. Si_2N_4 ~ covalent |
| 7. $\text{Al}(\text{OH})_3$ ~ ionic | 14. CO_2 ~ covalent |

D. Dot diagrams will not be on this test.

E. Mole-mass conversions. ~ Remember you need to calculate molar mass first!

1. Find the mass:

1. $\text{IO}_2 \rightarrow \text{MM} = 158.90 \text{ g/mol} \rightarrow 2.41 \text{ mol IO}_2 = 383 \text{ g IO}_2$
2. $\text{PCl}_5 \rightarrow \text{MM} = 208.22 \text{ g/mol} \rightarrow 2.41 \text{ mol PCl}_5 = 502 \text{ g PCl}_5$
3. $\text{BeCl}_2 \rightarrow \text{MM} = 79.91 \text{ g/mol} \rightarrow 2.41 \text{ mol BeCl}_2 = 193 \text{ g BeCl}_2$
4. $\text{NaI} \rightarrow \text{MM} = 149.90 \text{ g/mol} \rightarrow 2.41 \text{ mol NaI} = 361 \text{ g NaI}$

2. Find the number of moles in:

1. $\text{IO}_2 \rightarrow \text{MM} = 158.90 \text{ g/mol} \rightarrow 32.8 \text{ g IO}_2 = 0.206 \text{ mol IO}_2$
2. $\text{PCl}_5 \rightarrow \text{MM} = 208.22 \text{ g/mol} \rightarrow 32.8 \text{ g PCl}_5 = 0.158 \text{ mol PCl}_5$
3. $\text{BeCl}_2 \rightarrow \text{MM} = 79.91 \text{ g/mol} \rightarrow 32.8 \text{ g BeCl}_2 = 0.410 \text{ mol BeCl}_2$
4. $\text{NaI} \rightarrow \text{MM} = 149.90 \text{ g/mol} \rightarrow 32.8 \text{ g NaI} = 0.219 \text{ mol NaI}$

**All of the highlighted responses needed to be criss-crossed in order to write the formulas.

**Factor label method/fence post method was used to solve the conversions.

**I have the work in my room if you need to come check! ☺