

YOU NEED MORE PRACTICE!!! DO THESE!!

Part I. Name AND classify the following compounds (ionic, <sup>Molecule</sup>covalent or acid)

1.  $\text{FeCO}_3$  iron (II) carbonate  
Classification: I
2.  $\text{P}_2\text{O}_5$  diphosphorus pentoxide  
Classification: M
3.  $\text{H}_2\text{SO}_3$  sulfurous acid  
Classification: A
4.  $\text{LiNO}_2$  lithium nitrite  
Classification: I
5.  $\text{H}_2\text{Se}$  hydroselenic acid (binary acid)  
Classification: A
6.  $\text{Na}_2\text{S}$  sodium sulfide  
Classification: I
7.  $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$  zinc sulfate heptahydrate  
Classification: I
8.  $\text{Cl}_2\text{O}_7$  dichlorine heptoxide  
Classification: M
9.  $\text{Cu}_3\text{PO}_4$  copper (I) phosphate  
Classification: I
10.  $\text{KClO}_4 \cdot 6\text{H}_2\text{O}$  potassium perchlorate hexahydrate  
Classification: I

Part II Given the name, write the formulas for the following. In the second blank, classify the compound as ionic (I), <sup>molecule</sup> covalent (C) or acid (A)

11. lead (II) nitrate  $\overset{+2}{\text{Pb}}(\overset{-1}{\text{NO}_3})_2$  I
12. aluminum selenide  $\overset{+3}{\text{Al}_2}\overset{-2}{\text{Se}_3}$  I
13. dinitrogen trihydride  $\text{N}_2\text{H}_3$  M
14. zinc hydroxide  $\overset{+2}{\text{Zn}}(\overset{-1}{\text{OH}})_2$  I
15. nitric acid  $\text{HNO}_3$  A
16. trisilicon tetranitride  $\text{Si}_3\text{N}_4$  M
17. ammonium sulfate  $\overset{+1}{(\text{NH}_4)}_2\overset{-2}{\text{SO}_4}$  I
18. tin (IV) perchlorate  $\overset{+4}{\text{Sn}}(\overset{-1}{\text{ClO}_4})_4$  I
19. hydrofluoric acid  $\text{HF}$  A
20. strontium acetate trihydrate  $\overset{+2}{\text{Sr}}(\overset{-1}{\text{C}_2\text{H}_3\text{O}_2})_2 \cdot 3\text{H}_2\text{O}$  I

hydrate

### Writing Formulas of Covalent (Molecular) Compounds

- |   |  |
|---|--|
| 1. nitrogen trifluoride <u>NF<sub>3</sub></u>             | 7. phosphorus trichloride <u>PCl<sub>3</sub></u>             |
| 2. nitrogen monoxide <u>NO</u>                            | 8. phosphorus pentachloride <u>PCl<sub>5</sub></u>           |
| 3. nitrogen dioxide <u>NO<sub>2</sub></u>                 | 9. silicon tetrabromide <u>SiBr<sub>4</sub></u>              |
| 4. dinitrogen tetroxide <u>N<sub>2</sub>O<sub>4</sub></u> | 10. disulfur decafluoride <u>S<sub>2</sub>F<sub>10</sub></u> |
| 5. dinitrogen monoxide <u>N<sub>2</sub>O</u>              | 11. xenon tetrafluoride <u>XeF<sub>4</sub></u>               |
| 6. dicarbon hexahydride <u>C<sub>2</sub>H<sub>6</sub></u> | 12. uranium hexafluoride <u>UF<sub>6</sub></u>               |

### Ionic and Molecular Compounds

The following is a mix of ionic and covalent compounds. Determine the type of compound then either name the compound or provide the formula.

Formula	Name	Ionic or Covalent?
NH <sub>3</sub>	nitrogen trihydride	C
PCl <sub>5</sub>	phosphorus pentachloride	C
Cu <sub>2</sub> S	copper (I) sulfide	I
NiSO <sub>4</sub>	nickel (II) sulfate	I
OF <sub>2</sub>	oxygen difluoride	C
Al(OH) <sub>3</sub>	aluminum hydroxide	I
NCl <sub>3</sub>	nitrogen trichloride	C
(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub>	ammonium phosphate	I
S <sub>2</sub> Cl <sub>2</sub>	disulfur dichloride	C
CBr <sub>4</sub>	carbon tetrabromide	C
Fe <sub>2</sub> O <sub>3</sub>	iron (III) oxide	I
PbO	lead (II) oxide	I
Pb(CrO <sub>4</sub> ) <sub>2</sub>	Lead (IV) chromate	I
CO <sub>2</sub>	Carbon dioxide	C
(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub>	Ammonium carbonate	I
SO <sub>2</sub>	Sulfur dioxide	C
CaI <sub>2</sub>	Calcium iodide	I
BF <sub>3</sub>	Boron trifluoride	C
PI <sub>3</sub>	Phosphorus triiodide	C
KMnO <sub>4</sub>	Potassium permanganate	I
Mg(ClO <sub>4</sub> ) <sub>2</sub>	Magnesium perchlorate	I
NaHCO <sub>3</sub>	Sodium bicarbonate	I
AlPO <sub>4</sub>	Aluminum phosphate	I
O <sub>2</sub> F <sub>2</sub>	Dioxygen difluoride	C