Naming Compounds and Molar Masses

Answers are provided on the second sheet. Please try to do the worksheet without referring to them, because you'll be expected to know this stuff the second day of school!

Name each of the following chemical compounds and list their molar masses to the nearest g/mol:

1) $AgNO_3$ Silver Nitrate
2) $PbSO_4$ Lead (II) Sulfate
3) N_2O_3 Dinitrogen trioxide
4) $CoCl_2 \cdot \cancel{4 H_2O}$ cobalt (II) chloride
5) NH_3 Nitrogen trihydride
6) PBr_3 Phosphorous tribromide
7) B_2F_6 Diboron hexafluoride
8) $Sn(CO_3)_2$ Tin (II) carbonate

Write the formulas of each of the following chemical compounds and list their molar masses to the nearest g/mol:

9) lithium acetate $Li^+ \ (C_2H_3O_2)^-$ $Li(C_2H_3O_2)$
10) copper (I) oxide $Cu^+ \ O^{2-}$ Cu_2O
11) ammonium phosphate $NH_4^+ \ (PO_4)^{3-}$ $(NH_4)_3(PO_4)$
12) vanadium (V) cyanide $V^{5+} \ CN^-$ $V(CN)_5$
13) nitrogen tribromide NBr_3
14) iron (II) fluoride ~~tetrahydrate~~ $Fe^{2+} \ F^-$ FeF_2
15) sulfur hexachloride SCl_6
16) platinum (IV) hydroxide $Pt^{4+} \ OH^-$ $Pt(OH)_4$

Review– Naming Chemical Compounds

The following are a good mix of naming and formula writing problems to help you get some practice.

Name the following chemical compounds:

1) NaBr Sodium bromide
2) $Ca(C_2H_3O_2)_2$ Calcium Acetate
3) P_2O_5 Diphosphorus Pentaoxide
4) $Ti(SO_4)_2$ Titanium (II) Sulfate
5) $FePO_4$ Iron (III) Phosphate
6) K_3N Potassium nitride
7) SO_2 Sulfur Dioxide
8) CuOH Copper (I) Hydroxide
9) $Zn(NO_2)_2$ Zinc (II) Nitrite
10) V_2S_3 Vandium (III) Sulfide

Write the formulas for the following chemical compounds:

11) silicon dioxide SiO_2
12) nickel (III) sulfide Ni_2S_3 (Ni^{3+} S^{2-})
13) manganese (II) phosphate $Mn_3(PO_4)_2$ (Mn^{2+} $(PO_4)^{3-}$)
14) silver acetate $Ag(C_2H_3O_2)$ (Ag^{+} $(C_2H_3O_2)^{-}$)
15) diboron tetrabromide B_2Br_4
16) magnesium sulfate ~~heptahydrate~~ $MgSO_4$ (Mg^{2+} SO_4^{2-})
17) potassium carbonate $K_2(CO_3)$ (K^{+} $(CO_3)^{2-}$)
18) ammonium oxide $(NH_4)_2O$ (NH_4^{+} O^{2-})
19) tin (IV) selenide $Sn_2Se_4 \rightarrow SnSe_2$ (Sn^{4+} Se^{2-})
20) carbon tetrachloride CCl_4

(Still) More Naming Practice

Write the names of the following chemical compounds:

1) BBr_3 Boron Tribromide
2) $CaSO_4$ Calcium Sulfate
3) C_2Br_6 Dicarbon Hexabromide
4) $Cr(CO_3)_3$ Chromium (VI) Carbonate
5) Ag_3P Silver (I) Phosphide
6) IO_2 Iodine Dioxide
7) VO_2 Vandium (IV) Oxide
8) PbS Lead (II) Sulfide
9) CH_4 Carbon Tetrahydride
10) N_2O_3 Dinitrogen trioxide

Write the formulas of the following chemical compounds:

11) tetraphosphorus triselenide P_4Se_3
12) potassium acetate $K^+ \; C_2H_3O_2^- \rightarrow K(C_2H_3O_2)$
13) iron (II) phosphide $Fe^{2+} \; P^{3-} \rightarrow Fe_3P_2$
14) disilicon hexabromide Si_2Br_6
15) titanium (IV) nitrate $Ti^{4+} \; (NO_3)^- \rightarrow Ti(NO_3)_4$
16) diselenium diiodide Se_2I_2
17) copper (I) phosphate $Cu^+ \; (PO_4)^{3-} \rightarrow Cu_3(PO_4)$
18) gallium oxide $Ga^{3+} \; O^{2-} \rightarrow Ga_2O_3$
19) tetrasulfur dinitride S_4N_2
20) phosphorus P

Naming Acids and Bases

Name the following acids and bases:

1) $NaOH$ Sodium Hydroxide
2) H_2SO_3 Sulfurous Acid
3) H_2S Hydrosulfuric Acid
4) H_3PO_4 Phosphoric Acid
5) NH_3 Nitrogen trihydride
6) HCN Hydrocyanic Acid
7) $Ca(OH)_2$ Calcium Hydroxide
8) $Fe(OH)_3$ Iron (III) Hydroxide
9) H_3P Phosphoric Acid

Write the formulas of the following acids and bases:

10) hydrofluoric acid HF
11) hydroselenic acid H_2Se
12) carbonic acid $H^+ \ CO_3^{2-}$ $H_2(CO_3)$
13) lithium hydroxide $Li^+ \ OH^-$ LiOH
14) nitrous acid $H^+NO_2^-$ HNO_2
15) cobalt (II) hydroxide $Co^{2+} \ OH^-$ $Co(OH)_2$
16) sulfuric acid $H^+(SO_4)^{2-}$ H_2SO_4
17) beryllium hydroxide $Be^{2+} \ OH$ $Be(OH)_2$
18) hydrobromic acid HBr