

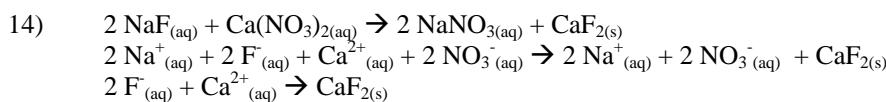
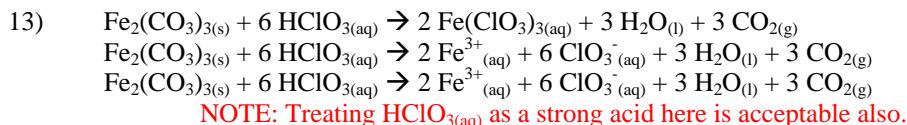
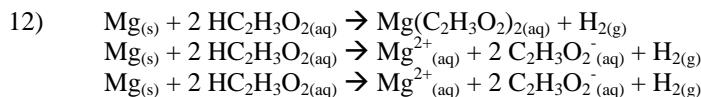
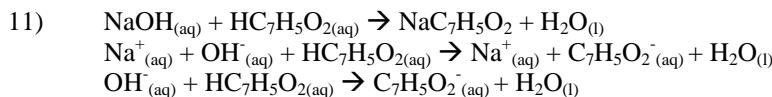
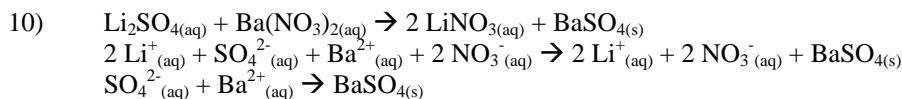
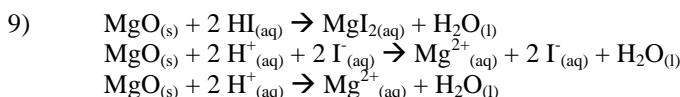
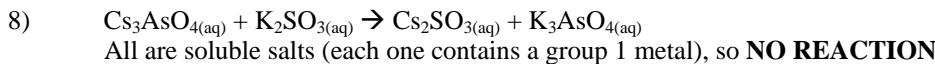
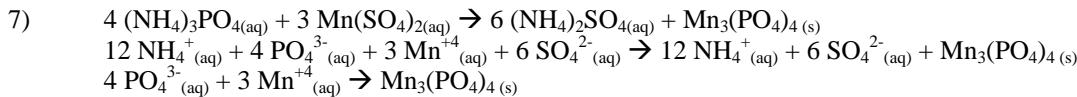
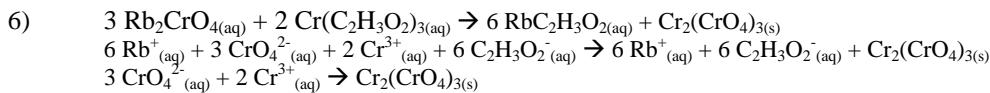
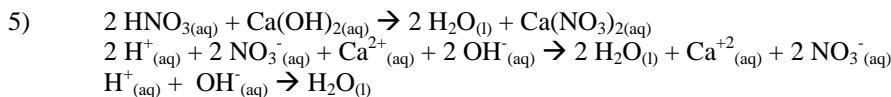
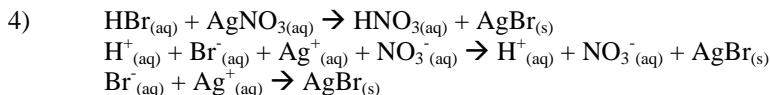
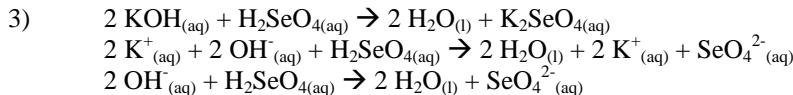
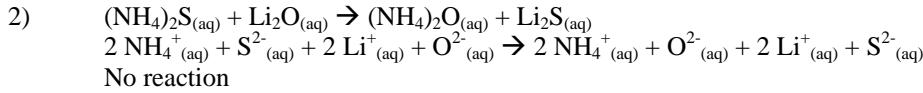
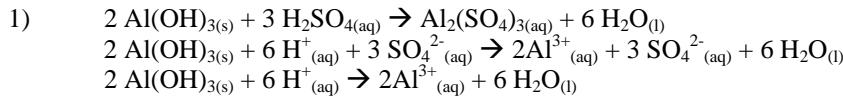
**YOU MUST STAPLE YOUR PAGES TOGETHER NO STAPLE = NO CREDIT!!!! You CAN circle your answers on this page and turn it in.**

Circle anything that applies (**there may be more than one thing circled in each problem**):

1) dinitrogen pentoxide:	soluble salt	insoluble salt	strong acid	weak acid	<b>molecular compound</b>	SE	WE	NE
2) barium sulfate:	soluble salt	<b>insoluble salt</b>	strong acid	weak acid	molecular compound	SE	<b>WE</b>	NE
3) mercury (II) bromide:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE
4) acetic acid:	soluble salt	insoluble salt	strong acid	<b>weak acid</b>	molecular compound	SE	<b>WE</b>	NE
5) hydroiodic acid:	soluble salt	insoluble salt	<b>strong acid</b>	weak acid	molecular compound	<b>SE</b>	WE	NE
6) carbon dioxide:	soluble salt	insoluble salt	strong acid	weak acid	<b>molecular compound</b>	SE	WE	NE
7) nitric acid:	soluble salt	insoluble salt	<b>strong acid</b>	weak acid	molecular compound	<b>SE</b>	WE	NE
8) sulfuric acid:	soluble salt	insoluble salt	<b>strong acid</b>	weak acid	molecular compound	<b>SE</b>	WE	NE
9) ammonium oxalate:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE
10) nickel (II) phosphate:	soluble salt	<b>insoluble salt</b>	strong acid	weak acid	molecular compound	SE	<b>WE</b>	NE
11) perchloric acid:	soluble salt	insoluble salt	<b>strong acid</b>	weak acid	molecular compound	<b>SE</b>	WE	NE
12) lithium chromate:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE
13) silver chloride:	soluble salt	<b>insoluble salt</b>	strong acid	weak acid	molecular compound	SE	<b>WE</b>	NE
14) strontium hydroxide:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE
15) pure water:	soluble salt	insoluble salt	strong acid	weak acid	<b>molecular compound</b>	SE	WE	NE
16) lead (II) acetate:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE
17) nitrous acid:	soluble salt	insoluble salt	strong acid	<b>weak acid</b>	molecular compound	SE	<b>WE</b>	NE
18) hydrocyanic acid:	soluble salt	insoluble salt	strong acid	<b>weak acid</b>	molecular compound	SE	<b>WE</b>	NE
19) hydrofluoric acid:	soluble salt	insoluble salt	strong acid	<b>weak acid</b>	molecular compound	SE	<b>WE</b>	NE
20) sodium oxide:	<b>soluble salt</b>	insoluble salt	strong acid	weak acid	molecular compound	<b>SE</b>	WE	NE

**DO NOT WRITE YOUR ANSWERS FOR THIS SECTION ON THIS SHEET (please do NOT turn in this page), PLEASE USE A SEPARATE PIECE OF PAPER AND WRITE NEATLY.**

Write the net ionic equation for each of the following reactions (assume all are in water solution):



- 15)  $2 \text{TiI}_3\text{(aq)} + 3 \text{Hg}_2(\text{C}_2\text{H}_3\text{O}_2)_2\text{(aq)} \rightarrow 2 \text{Ti}(\text{C}_2\text{H}_3\text{O}_2)_3\text{(aq)} + 3 \text{Hg}_2\text{I}_{2(s)}$   
 $2 \text{Ti}^{3+}\text{(aq)} + 6 \text{I}^-\text{(aq)} + 3 \text{Hg}_2^{2+}\text{(aq)} + 6 \text{C}_2\text{H}_3\text{O}_2^-\text{(aq)} \rightarrow 2 \text{Ti}^{3+}\text{(aq)} + 6 \text{C}_2\text{H}_3\text{O}_2^-\text{(aq)} + 3 \text{Hg}_2\text{I}_{2(s)}$   
 $2 \text{I}^-\text{(aq)} + \text{Hg}_2^{2+}\text{(aq)} \rightarrow \text{Hg}_2\text{I}_{2(s)}$
- 16)  $3 \text{Bi}(\text{ClO}_3)_5\text{(aq)} + 5 \text{Al}(\text{NO}_3)_3\text{(aq)} \rightarrow 3 \text{Bi}(\text{NO}_3)_5\text{(aq)} + 5 \text{Al}(\text{ClO}_3)_3\text{(aq)}$   
All are soluble salts (see rule #2), so **NO REACTION!!**
- 17)  $\text{Ca}(\text{HCO}_3)_{2(s)} + 2 \text{HBr}_{(aq)} \rightarrow \text{CaBr}_{2(aq)} + 2 \text{H}_2\text{O}_{(l)} + 2 \text{CO}_{2(g)}$   
 $\text{Ca}(\text{HCO}_3)_{2(s)} + 2 \text{H}^+\text{(aq)} + 2 \text{Br}^-\text{(aq)} \rightarrow \text{Ca}^{2+}\text{(aq)} + 2 \text{Br}^-\text{(aq)} + 2 \text{H}_2\text{O}_{(l)} + 2 \text{CO}_{2(g)}$   
 $\text{Ca}(\text{HCO}_3)_{2(s)} + 2 \text{H}^+\text{(aq)} \rightarrow \text{Ca}^{2+}\text{(aq)} + 2 \text{H}_2\text{O}_{(l)} + 2 \text{CO}_{2(g)}$
- 18)  $\text{H}_2\text{S}_{(g)} + \text{CdCl}_{2(aq)} \rightarrow 2 \text{HCl}_{(aq)} + \text{CdS}_{(s)}$   
 $\text{H}_2\text{S}_{(g)} + \text{Cd}^{2+} + 2 \text{Cl}^-\text{(aq)} \rightarrow 2 \text{H}^+\text{(aq)} + 2 \text{Cl}^-\text{(aq)} + \text{CdS}_{(s)}$   
 $\text{H}_2\text{S}_{(g)} + \text{Cd}^{2+} \rightarrow 2 \text{H}^+\text{(aq)} + \text{CdS}_{(s)}$
- 19)  $\text{Li}_2\text{C}_2\text{O}_4\text{(aq)} + \text{Ca}(\text{ClO}_4)_{2(aq)} \rightarrow 2 \text{LiClO}_4\text{(aq)} + \text{CaC}_2\text{O}_{4(s)}$   
 $2 \text{Li}^+\text{(aq)} + \text{C}_2\text{O}_4^{2-}\text{(aq)} + \text{Ca}^{2+}\text{(aq)} + 2 \text{ClO}_4^-\text{(aq)} \rightarrow 2 \text{Li}^+\text{(aq)} + 2 \text{ClO}_4^-\text{(aq)} + \text{CaC}_2\text{O}_{4(s)}$   
 $\text{C}_2\text{O}_4^{2-}\text{(aq)} + \text{Ca}^{2+}\text{(aq)} \rightarrow \text{CaC}_2\text{O}_{4(s)}$
- 20)  $\text{Sr}(\text{OH})_2\text{(aq)} + 2 \text{HCl}_{(aq)} \rightarrow \text{SrCl}_{2(aq)} + \text{H}_2\text{O}_{(l)}$   
 $\text{Sr}^{2+}\text{(aq)} + 2 \text{OH}^-\text{(aq)} + 2 \text{H}^+\text{(aq)} + 2 \text{Cl}^-\text{(aq)} \rightarrow \text{Sr}^{2+}\text{(aq)} + 2 \text{Cl}^-\text{(aq)} + 2 \text{H}_2\text{O}_{(l)}$   
 $\text{OH}^-\text{(aq)} + \text{H}^+\text{(aq)} \rightarrow \text{H}_2\text{O}_{(l)}$
- 21)  $\text{H}_2\text{C}_2\text{O}_4\text{(aq)} + \text{Ba}(\text{OH})_{2(aq)} \rightarrow 2 \text{H}_2\text{O}_{(l)} + \text{BaC}_2\text{O}_{4(s)}$   
 $\text{H}_2\text{C}_2\text{O}_4\text{(aq)} + \text{Ba}^{2+}\text{(aq)} + 2 \text{OH}^-\text{(aq)} \rightarrow 2 \text{H}_2\text{O}_{(l)} + \text{BaC}_2\text{O}_{4(s)}$   
 $\text{H}_2\text{C}_2\text{O}_4\text{(aq)} + \text{Ba}^{2+}\text{(aq)} + 2 \text{OH}^-\text{(aq)} \rightarrow 2 \text{H}_2\text{O}_{(l)} + \text{BaC}_2\text{O}_{4(s)}$