NAME_____

Homework 9

Balance the Following Reactions

1. _____N_2 + _____H_2 $\rightarrow$ _____NH_3

2. _____$KClO_3$ $\rightarrow$ _____KCl + _____O_2

3. _____NaCl + _____F_2 $\rightarrow$ _____NaF + _____Cl_2

4. _____H_2 + _____O_2 $\rightarrow$ _____H_2O

5. _____$Pb(OH)_2$ + _____HCl $\rightarrow$ _____$PbCl_2$ + _____H_2O

Write equations for and balance the following chemical reactions.

1. Aqueous nickel (II) chloride reacts with aqueous sodium hydroxide to produce nickel(II) hydroxide precipitate and aqueous sodium chloride.

2. Solid potassium metal reacts with water to give aqueous potassium hydroxide and hydrogen gas.

3. Aqueous sodium hydroxide reacts with aqueous phosphoric acid to give liquid water and aqueous sodium phosphate.

4. Aqueous hydrogen fluoride reacts with aqueous potassium hydroxide to give water and aqueous potassium fluoride.

Solubility Rules: Detwenime if the following ionic compounds are soluble or not based on your solubility rules. If they are soluble, determine the ions present in solution.

	Souble or Insoluble??	If soluble, ions present?
NaCl	**Soluble**	**Na^+ Cl^-**
Na_2S		
$Ca(NO_2)_2$		
$FeBr_3$		
K_3N		
$(NH_4)_2CO_3$		
PbI_2		
$SrSO_4$		
$AgC_2H_3O_2$		
$Ca_3(PO_4)_2$		

Complete and balance the following reactions, determining if a precipitate is formed. If both potential products are soluble, write no reaction.

1. $CsI(aq) + NaOH(aq) \rightarrow$ _____

Potential Products	Soluble or Insoluble

2. $NaNO_3(aq) + NH_4Cl(aq) \rightarrow$ _____

Potential Products	Soluble or Insoluble

3. $KCl(aq) + Pb(NO_3)_2(aq) \rightarrow$ _____

Potential Products	Soluble or Insoluble

4. $AgNO_3(aq) + MgBr_2(aq) \rightarrow$ _____

Potential Products	Soluble or Insoluble

4. $Ca(OH)_2(aq) + FeCl_3(aq) \rightarrow$ _____

Potential Products	Soluble or Insoluble

5. $NaOH(aq) + HCl(aq) \rightarrow$ _____

6. $NaCl(aq) + Sn(NO_3)_2(aq) \rightarrow$ _____

7. $Ca(OH)_2(aq) + Na_2CO_3(aq) \rightarrow$ _____

8. $Na_2S(aq) + FeCl_3(aq) \rightarrow$ _____