**AP Chemistry**

**Types of Reactions Practice Packet**

***Synthesis***

1. ­­­\_\_\_Mg (s) + ­­­\_\_\_O2 (g)
2. ­­­\_\_\_SO3 (g) + ­­­\_\_\_H2O(l)
3. ­­­\_\_\_MnO (s) + ­­­\_\_\_ H2O(l)
4. ­­­\_\_\_P2O3 (g) + ­­­\_\_\_ H2O(l)
5. ­­­\_\_\_Fe2O3 (s) + ­­­\_\_\_ P4O10 (s)
6. \_\_\_K2O (s) + ­­­\_\_\_ H2O(l)
7. ­­­\_\_\_CuO (s) + ­­­\_\_\_ CO2 (g)
8. ­­­\_\_\_O2 (g) + ­­­\_\_\_ H2 (g)
9. ­­­\_\_\_NO2 (g) + ­­­\_\_\_ BCl3 (s)
10. ­­­\_\_\_ H2 (g) + ­­­\_\_\_ F2 (g)

***Decomposition***

1. \_\_\_CaO (s)
2. \_\_\_HNO3 (aq)
3. \_\_\_Na2CO3 (aq)
4. \_\_\_H2SO3 (aq)
5. \_\_\_RbI(s)
6. \_\_\_CsClO3 (aq)
7. \_\_\_NH4OH (aq)
8. \_\_\_MgCO3 (aq)
9. \_\_\_(NH4)2CO3 (aq)
10. \_\_\_H2O (l)

***Single Displacement* (could be no rxn)**

1. \_\_\_Ca(s) + \_\_\_NaCl(aq)
2. \_\_\_Zn(NO3)2(aq) + \_\_\_Cu(s)
3. \_\_\_Ba(s) + \_\_\_Al2(SO4)3(aq)
4. \_\_\_Cl2(g) + \_\_\_SrBr2(aq)
5. \_\_\_Fe(s) + \_\_\_SnI4(aq)
6. \_\_\_K(s) + \_\_\_H2O(l)
7. \_\_\_CoCl2(aq) + \_\_\_F2(g)
8. \_\_\_Cr(s) + \_\_\_HCl(aq)
9. \_\_\_PbSO3(s) + \_\_\_H2(g)
10. \_\_\_Ti(s) + \_\_\_H2SO4(aq)

***Double Displacement*** (could be no rxn)

1. \_\_\_NaOH(aq) + \_\_\_MgCl2(aq)
2. \_\_\_K3PO4(aq) + \_\_\_FeBr3(aq)
3. \_\_\_NH4ClO3(aq) + \_\_\_Mn(NO3)2(aq)
4. \_\_\_RbSO4 (aq) + \_\_\_AgNO3(aq)
5. \_\_\_NaI(aq) + \_\_\_HgClO3(aq)
6. \_\_\_CsC2H3O2(aq) + \_\_\_ZnCl2(aq)
7. \_\_\_K2CO3 (aq) + \_\_\_CuBr(aq)
8. \_\_\_Al(C2H3O2)3 (aq) + \_\_\_(NH4)3PO4(aq)
9. \_\_\_Li2CrO4 (aq) + \_\_\_SrI2(aq)
10. \_\_\_K2O (aq) + \_\_\_HBr(aq)

***Acid-Base***

1. \_\_\_Na2CO3 (aq) + \_\_\_KOH(aq)
2. \_\_\_H2SO4 (aq) + \_\_\_Ca(OH)2(aq)
3. \_\_\_Ba(OH)2 (aq) + \_\_\_HBr(aq)
4. \_\_\_K2CO3 (aq) + \_\_\_HCl(aq)
5. \_\_\_LiOH (aq) + \_\_\_HI(aq)
6. \_\_\_NH3 (aq) + \_\_\_HBr(aq)

1. \_\_\_HNO3 (aq) + \_\_\_NaOH(aq)

1. \_\_\_HI (aq) + \_\_\_NH3(aq)
2. \_\_\_HClO3 (aq) + \_\_\_LiOH(aq)
3. \_\_\_H2SO3 (aq) + \_\_\_KOH(aq)

***Combustion***

1. C3H8 (g) + O2 (g)
2. CH4 (g) + O2 (g)
3. C4H9OH (aq) + O2 (g)
4. C2H2 (g) + O2 (g)
5. O2 (g) + CH3OH (aq)
6. C8H18 (g) + O2 (g)
7. C4H9OH (aq) + O2 (g)
8. O2 (g) + C5H10 (g)
9. C2H5OH (g) + O2 (g)
10. C3H6 (g) + O2 (g)

***Net-Ionic Equations***

1. Write the chemical, full ionic, and net ionic equations for a reaction between barium hydroxide and hydrobromic acid.
2. Write the chemical, full ionic, and net ionic equations for a reaction between sodium acetate and zinc chloride.
3. Write the chemical, full ionic, and net ionic equations for a reaction between ammonium carbonate and iron (III) nitrate.