**IDENTIFY THE TYPE OF REACTION AND BALANCE THE EQUATION:**

1. \_\_\_Sb + \_\_\_I2 🡪 \_\_\_SbI3

2. \_\_\_Li + \_\_\_H2O 🡪 \_\_\_LiOH + \_\_\_H2

3. \_\_\_AlCl3 🡪 \_\_\_Al + \_\_\_Cl2

4. \_\_\_C6H12 + \_\_\_O2 🡪\_\_\_ CO2 + \_\_\_H2O

5. \_\_\_AlCl3 + \_\_\_Na2CO3🡪 \_\_\_Al2(CO3)3 + \_\_\_NaCl

6. \_\_\_HNO3 + \_\_\_Ba(OH)2 🡪 \_\_\_Ba(NO3)2 + \_\_\_H2O

7. \_\_\_Al + \_\_\_Pb(NO3)2 🡪 \_\_\_Al(NO3)3 + \_\_\_Pb

8. \_\_\_SO2(g) 🡪 \_\_\_S(s) + \_\_\_O2(g)

**IDENTIFY THE TYPE OF REACTION & WRITE A BALANCED EQUATION (INCL. STATES):**

9. Aqueous solutions of ammonium chloride and lead(II) nitrate produce lead(II) chloride precipitate and aqueous ammonium nitrate.

10. Solid carbon disulfide burns in oxygen to yield carbon dioxide and sulfur dioxide gases.

11. Iron metal reacts with aqueous silver nitrate to produce aqueous iron(III) nitrate and silver metal.

12. Solid potassium nitrate yields solid potassium nitrite and oxygen gas.

13. Calcium metal reacts with chlorine gas to produce solid calcium chloride.

14. Fluorine gas added to aqueous potassium chloride produces aqueous potassium fluoride and chlorine gas.

15. Phosphorous reacts with oxygen gas to produce solid diphosphorous pentoxide.

**IDENTIFY THE TYPE OF REACTION, PREDICT THE PRODUCTS, and BALANCE THE EQUATION:**

16. Al(s) + NaOH(aq)

17. C2H4(g) + O2(g)

18. FeCl2(aq)+ K2S(aq)

19. Ba(s) + O2(g)

20. NH4NO3(aq) + NaCl(aq)

21. Magnesium metal is added to aqueous hydrochloric acid.

22. Potassium metal is combined with chlorine gas.

23. Aqueous solutions of potassium bromide and silver nitrate are combined.

24. Solid mercury(II) oxide breaks down into its component elements.

25.Write a balanced equation from this word equation.

aqueous silver nitrate + copper metal 🡪 silver metal + aqueous copper nitrate

26. Write the balanced equation for the reaction between iron (III) chloride and sodium hydroxide. The

products are iron (III) hydroxide and sodium chloride.

**Use the activity series of metals and your knowledge of the relative reactivity of the halogens to predict the products for the reactions below. If no reaction occurs, just write “No Reaction”. Write balanced equations for those reactions that do occur.**

a. Br2(*g*) + NaCl(*aq*) 🡪

b. Ca(*s*) + Mg(NO3)2(*aq*) 🡪

c. K(*s*) + H2SO4(*aq*) 🡪

d.Zn(*s*) + NaOH(*aq*) 🡪

**Predict the products for the reactions below. Identify the precipitate formed and the aqueous product. If no precipitate is formed, write “No Reaction”*.***

a. Zn(NO3)2(aq) + SnCl2(aq) 🡪

b. KCl(aq) + AgNO3(aq) 🡪

c. Cu(NO3)2(aq) + Na2S(aq) 🡪

d. Al2(SO4)3(aq) + Ca(OH)2(aq) 🡪