## SINGLE REPLACEMENT, COMBUSTION, SYNTHESIS, AND DECOMPOSITION, REACTIONS

Write the balanced chemical equation for each of the following reactions. Be sure to include states of matter:

Single replacement practice – be sure to check your activity series!:

- 1. Magnesium is mixed with Silver Nitrate solution. Write the balanced chemical equation.
- 2. Copper is combined with Zinc acetate solution. Write the balanced chemical equation. (Copper forms a Copper (II) ion when reacted)
- 3. Zinc is mixed with a solution of Copper (II) Chloride. Write the balanced chemical equation

Mixed Review: Combustion, synthesis, decomposition, and single replacement. Write the balanced chemical equation for each.

- 4. A solution of Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) decomposes into water and hydrogen gas.
- 5. Aluminum is placed in a solution of Iron (II) Nitrate.
- 6. Ethene  $(C_2H_6)$  is burned.
- 7. Ammonia  $(NH_3)$  is formed from a combination of its elements.
- 8. Chlorine gas is placed in a solution of sodium bromide.

Write the balanced chemical equation for each of the following reactions. Be sure to include states of matter:

## Single replacement practice – be sure to check your activity series!:

1. Magnesium is mixed with Silver Nitrate solution. Write the balanced chemical equation.

 $Mg_{(s)} + 2AgNO_{3(aq)} \rightarrow 2Mg(NO_{3})_{2(aq)} + 2Ag_{(s)}$ 

2. Copper is combined with Zinc acetate solution. Write the balanced chemical equation. (Copper forms a Copper (II) ion when reacted)

No Reaction – Zinc is higher than Copper on the activity series

3. Zinc is mixed with a solution of Copper (II) Chloride. Write the balanced chemical equation

 $Zn_{(s)} + CuCl_{2(aq)} \rightarrow ZnCl_{2(aq)} + Cu_{(s)}$ 

## Mixed Review: Combustion, synthesis, decomposition, and single replacement. Write the balanced chemical equation for each.

4. A solution of Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) decomposes into water and hydrogen gas.

 $2H_2O_{2(aq)} \rightarrow 2H_2O_{(I)} + O_{2(g)}$ 

5. Aluminum is placed in a solution of Iron (II) Nitrate.

 $2AI_{(s)} + 3Fe(NO_3)_{2(aq)} \rightarrow 2AI(NO_3)_{3(aq)} + 3Fe_{(s)}$ 

6. Ethene  $(C_2H_6)$  is burned.

 $2C_2H_{6(g)} + 7 O_{2(g)} \rightarrow 4 CO_{2(g)} + 6 H_2O_{(g)}$ 

7. Ammonia  $(NH_3)$  is formed from a combination of its elements.

 $N_{2(g)} + 3H_{2(g)} \rightarrow 2NH_{3(g)}$ 

8. Chlorine gas is placed in a solution of sodium bromide.

 $Cl_{2(g)}$  + 2NaBr<sub>(aq)</sub>  $\rightarrow$  2NaCl<sub>(aq)</sub> + Br<sub>2(I)</sub>