**Types of Reactions & Balancing**

*Balance the following equations and indicate the type of reaction taking place. The types of reactions are: synthesis, decomposition, single replacement, double replacement, and combustion.*

1) \_\_\_\_ NaBr + \_\_\_\_ H3PO4 🡪 \_\_\_\_ Na3PO4 + \_\_\_\_ HBr

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) \_\_\_\_ Ca(OH)2 + \_\_\_\_ Al2(SO4)3 🡪 \_\_\_\_ CaSO4 + \_\_\_\_ Al(OH)3

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3) \_\_\_\_ Mg + \_\_\_\_ Fe2O3 🡪 \_\_\_\_ Fe + \_\_\_\_ MgO

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) \_\_\_\_ C2H4 + \_\_\_\_ O2 🡪 \_\_\_\_ CO2 + \_\_\_\_ H2O

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) \_\_\_\_ PbSO4 🡪 \_\_\_\_ PbSO3 + \_\_\_\_ O2

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6) \_\_\_\_ NH3 + \_\_\_\_ I2 🡪 \_\_\_\_ N2I6 + \_\_\_\_ H2

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) \_\_\_\_ H2O+ \_\_\_\_ SO3 🡪 \_\_\_\_ H2SO4

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) \_\_\_\_ H2SO4 + \_\_\_\_ NH4OH 🡪 \_\_\_\_ H2O + \_\_\_\_ (NH4)2SO4

Type of reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Types of Reactions Worksheet – Solutions**

*Balance the following equations and indicate the type of reaction taking place:*

1) **3** NaBr + **1** H3PO4 🡪 **1** Na3PO4 + **3** HBr

Type of reaction: **double displacement**

2) **3** Ca(OH)2 + **1** Al2(SO4)3 🡪 **3** CaSO4 + **2** Al(OH)3

Type of reaction: **double displacement**

3) **3** Mg + **1** Fe2O3 🡪 **2** Fe + **3** MgO

Type of reaction: **single displacement**

4) **1** C2H4 + **3** O2 🡪 **2** CO2 + **2** H2O

Type of reaction: **combustion**

5) **2** PbSO4 🡪 **2** PbSO3 + **1** O2

Type of reaction: **decomposition**

6) **2** NH3 + **3** I2 🡪 **1** N2I6 + **3** H2

Type of reaction: **double displacement**

7) **1** H2O+ **1** SO3 🡪 **1** H2SO4

Type of reaction: **decomposition**

8) **1** H2SO4 + **2** NH4OH 🡪 **2** H2O + **1** (NH4)2SO4

Type of reaction: **acid-base**