CEM-111
Additional Equation Balancing Exercise Answers

Balance the following and indicate the type of chemical reaction.

1. $Li_2O + H_2O \rightarrow 2\ LiOH$ **combination**

2. $2\ HgO \rightarrow 2\ Hg + O_2$ **decomposition**

3. $CaC_2 + 2\ H_2O \rightarrow C_2H_2 + Ca(OH)_2$ **(2 HOH) double replacement**

4. $Zn(OH)_2 + H_2SO_4 \rightarrow ZnSO_4 + 2\ H_2O$ **double replacement neutralization**

5. $2\ PbO_2 \rightarrow 2\ PbO + O_2$ **decomposition**

6. $2\ Al + 6\ HCl \rightarrow 2\ AlCl_3 + 3\ H_2$ **single replacement**

7. $Fe_2(SO_4)_3 + 3\ Ba(OH)_2 \rightarrow 3\ BaSO_4\ (s) + 2\ Fe(OH)_3\ (s)$ **double replacement – precipitation**

8. $2\ Al + 3\ CuSO_4 \rightarrow Al_2(SO_4)_3 + 3\ Cu$ **single replacement**

9. $3\ Mg + N_2 \rightarrow Mg_3N_2$ **combination**

10. $3\ FeCl_3 + 3\ Na_3PO_4 \rightarrow Fe_3(PO_4)_3\ (s) + 9\ NaCl$ **double replacement – precipitation**

11. $CaSO_4 \cdot 2\ H_2O \rightarrow CaSO_4 + 2\ H_2O$ **decomposition**

12. $2\ C_2H_5OH + 11\ O_2 \rightarrow 8\ CO_2 + 9\ H_2O$ **combustion**

13. $NaHCO_3 + HCl \rightarrow NaCl + CO_2 + H_2O$ **= (H_2CO_3 **) double replacement – gas formation & nonelectrolyte formation (we didn't cover this)**
(H_2CO_3 **decomposes to** CO_2 **+** H_2O**)**