PAL Worksheet – Chem 6A

Balancing and Types of Reactions

For each of the following, balance the reaction. If the coefficient is 1, you can leave the space blank (we don't write 1 as a coefficient in chemical reactions). Then determine the reaction type (combination or synthesis; decomposition; single displacement; double displacement; combustion). If your instructor covers oxidation-reduction reactions, also indicate if the reaction is a redox reaction. Some reactions fall into more than one category. This is particularly true for redox reactions. In these cases, list all the reaction types that apply.

1. ___$Mn(s)$ + ___$O_2(g) \rightarrow$ ___$MnO(s)$

Type: ____

2. ___$KClO_3(s) \rightarrow$ ____$KCl(s)$ + ____$O_2(g)$

Type: ____

3. ___$CH_4(g)$ + ___$O_2(g) \rightarrow$ ___$CO_2(g)$ + ___$H_2O(g)$

Type: ____

4. ___$KBr(aq)$ + ___$AgNO_3(aq) \rightarrow$ ___$AgBr(s)$ + ___$KNO_3(aq)$

Type: ____

5. ___Na(s) + ___Cl_2(g) $\rightarrow$ ___NaCl(s)

Type: ____

6. ___Cu(s) + ___$AgNO_3$(aq) $\rightarrow$ ___$Cu(NO_3)_2$ + ___Ag(s)

Type: ____

7. ___C_2H_6O(l) + ___O_2(g) $\rightarrow$ ___CO_2(g) + ___H_2O(g)

Type: ____

8. ___$Ca(OH)_2$(s) $\rightarrow$ ___CaO(s) + ___H_2O(l)

Type: ____

9. ___Zn(s) + ___HCl(aq) $\rightarrow$ ___$ZnCl_2$(aq) + ___H_2(g)

Type: ____

10. ___$BaBr_2$(aq) + ___Na_2CO_3(aq) $\rightarrow$ ___$BaCO_3$(s) + ___NaBr (aq)

Type: ____

11. ___H_2O_2(aq) → ___H_2O(l) + ___O_2(g)

Type: ____

12. ___LiOH(aq) + ___$MgSO_4$(aq) → ___Li_2SO_4 (aq) + $Mg(OH)_2$(s)

Type: ____

13. ___H_2SO_4(aq) + ___Fe(s) → ___H_2(g) + ___$FeSO_4$(aq)

Type: ____

14. ___C_6H_{12}(l) + ___O_2(g) → ___CO_2(g) + ___H_2O(l)

Type: ____

15. ___H_2(g) + ___N_2(g) → ___NH_3(g)

Type: ____