Chapter 8: Chemical Reactions – Balancing and Predicting Products

A. Balance the following equations.

1. $2KClO_3 \rightarrow 2KCl + 3O_2$

2. $2PbO_2 \rightarrow 2PbO + O_2$

3. $2HgO \rightarrow 2Hg + O_2$

4. $2H_2O \rightarrow 2H_2 + O_2$

5. $2K + 2H_2O \rightarrow 2KOH + H_2$
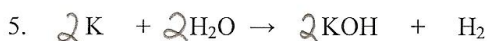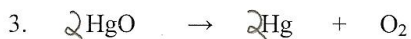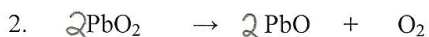
B. Balance the following and write the reaction type in the space provided in front of the equation.

____S.R.____ 1. $Fe + Cu(NO_3)_2 \rightarrow Cu + Fe(NO_3)_2$

__D.R./Decomp.__ 2. $CaCO_3 + 2HCl \rightarrow CaCl_2 + CO_2 + H_2O$

____D.R.____ 3. $2KNO_3 + H_2SO_4 \rightarrow K_2SO_4 + 2HNO_3$

____Decomp.____ 4. $Li_2CO_3 \rightarrow Li_2O + CO_2$

__Combustion__ 5. $2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O$

____Synthesis____ 6. $CO_2 + Na_2O \rightarrow Na_2CO_3$

____Synthesis____ 7. $P_2O_5 + 3BaO \rightarrow Ba_3(PO_4)_2$
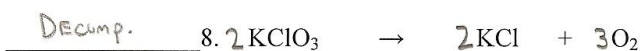
____Decomp.____ 8. $2KClO_3 \rightarrow 2KCl + 3O_2$

____D.R.____ 9. $3KOH + H_3PO_4 \rightarrow K_3PO_4 + 3H_2O$

____S.R____ 10. $Zn + CuCl_2 \rightarrow ZnCl_2 + Cu$

____Synthesis____ 11. $BaO + H_2O \rightarrow Ba(OH)_2$

____S.R.____ 12. $2KI + Br_2 \rightarrow 2KBr + I_2$

__Combustion__ 13. $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

____D.R.____ 14. $2AgNO_3 + ZnCl_2 \rightarrow 2AgCl + Zn(NO_3)_2$

____D.R.____ 15. $Na_2SO_4 + Ba(NO_3)_2 \rightarrow BaSO_4 + 2NaNO_3$
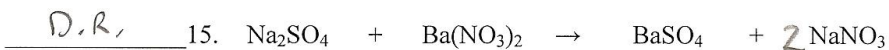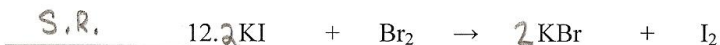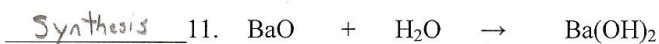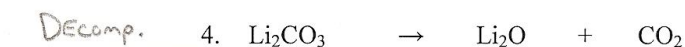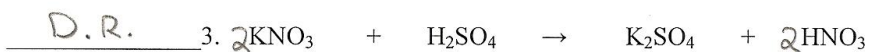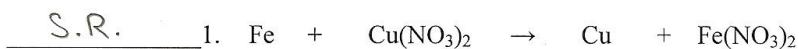
C. Predict the end products, balance the equations, and write the reaction type in the space provided in front of the equation.

_____S.R_____ 1. $Zn + 2HCl \rightarrow ZnCl_2 + H_2$

_____DEcomp._____ 2. $2NaCl \rightarrow 2Na + Cl_2$

_____Combustion_____ 3. $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$

_____S.R._____ 4. $Fe + H_2SO_4 \rightarrow FeSO_4 + H_2$

_____D.R_____ 5. $CuSO_4 + Na_2S \rightarrow CuS + Na_2SO_4$

_____S.R._____ 6. $2Na + 2H_2O \rightarrow 2NaOH + H_2$

_____S.R._____ 7. $Cl_2 + 2NaBr \rightarrow 2NaCl + Br_2$

_____D.R._____ 8. $2KOH + H_2SO_4 \rightarrow K_2SO_4 + 2H_2O$