ANSWER KEY

Instructions: Balance the following chemical equations then tell what type of chemical reaction is displayed in the chemical equation.

1. $2\ Mg_{(s)} + 1\ O_{2(g)} \rightarrow 2\ MgO_{(s)}$ — Synthesis
2. $1\ BaCl_{2(aq)} + 1\ Na_2SO_{4(aq)} \rightarrow 2\ NaCl_{(aq)} + 1\ BaSO_{4(s)}$ — D-R
3. $1\ C_{(s)} + 1\ O_{2(g)} \rightarrow 1\ CO_{2(g)}$ — Synthesis
4. $2\ Na_{(s)} + 2\ H_2O_{(l)} \rightarrow 2\ NaOH_{(aq)} + 1\ H_{2(g)}$ — S-R
5. $1\ MgO_{(s)} + 1\ H_2O_{(l)} \rightarrow 1\ Mg(OH)_{2(s)}$ — Synthesis
6. $2\ Na_{(s)} + 1\ Cl_{2(g)} \rightarrow 2\ NaCl_{(s)}$ — Synthesis
7. $1\ Ba_{(s)} + 2\ H_2O_{(l)} \rightarrow 1\ Ba(OH)_{2(aq)} + 1\ H_{2(g)}$ — S-R
8. $2\ NaHCO_{3(s)} \rightarrow 1\ Na_2O_{(aq)} + 1\ H_2O_{(l)} + 2\ CO_{2(g)}$ — Decomposition
9. $2\ P_{(s)} + 3\ Cl_{2(g)} \rightarrow 2\ PCl_{3(g)}$ — Synthesis
10. $2\ HCl_{(aq)} + 1\ FeS_{(s)} \rightarrow 1\ FeCl_{2(aq)} + 1\ H_2S_{(g)}$ — D-R
11. $1\ CH_{4(g)} + 2\ O_{2(g)} \rightarrow 1\ CO_{2(g)} + 2\ H_2O_{(g)}$ — Combustion
12. $1\ CaCO_{3(s)} \rightarrow 1\ CaO_{(s)} + 1\ CO_{2(g)}$ — Decomposition
13. $1\ Zn_{(s)} + 2\ HCl_{(aq)} \rightarrow 1\ ZnCl_{2(aq)} + 1\ H_{2(g)}$ — S-R
14. $1\ Ca(OH)_{2(s)} \rightarrow 1\ CaO_{(s)} + 1\ H_2O_{(l)}$ — Decomposition
15. $2\ KClO_{3(s)} \rightarrow 2\ KCl_{(s)} + 3\ O_{2(g)}$ — Decomposition
16. $1\ H_2SO_{4(l)} \rightarrow 1\ SO_{3(g)} + 1\ H_2O_{(l)}$ — Decomposition
17. $1\ HCl_{(aq)} + 1\ NaOH_{(aq)} \rightarrow 1\ NaCl_{(aq)} + 1\ H_2O_{(l)}$ — D-R
18. $2\ HgO_{(s)} \rightarrow 2\ Hg_{(l)} + 1\ O_{2(g)}$ — Decomposition
19. $2\ C_4H_{10(g)} + 13\ O_{2(g)} \rightarrow 8\ CO_{2(g)} + 10\ H_2O_{(g)}$ — Combustion
20. $1\ Cl_{2(g)} + 2\ NaBr_{(aq)} \rightarrow 2\ NaCl_{(aq)} + 1\ Br_{2(l)}$ — S-R
21. $2\ H_2O_{(l)} \rightarrow 2\ H_{2(g)} + 1\ O_{2(g)}$ — Decomposition

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1. $2\ H_2 + 1\ O_2 \rightarrow 2\ H_2O$
2. $3\ H_2 + 1\ N_2 \rightarrow 2\ NH_3$
3. $2\ Al_2O_3 \rightarrow 4\ Al + 3\ O_2$
4. $2\ KClO_3 \rightarrow 2\ KCl + 3\ O_2$
5. $1\ S_8 + 8\ O_2 \rightarrow 8\ SO_2$
6. $2\ C_2H_6 + 7\ O_2 \rightarrow 4\ CO_2 + 6\ H_2O$
7. $1\ Al_2(SO_4)_3 + 3\ Ca(OH)_2 \rightarrow 2\ Al(OH)_3 + 3\ CaSO_4$
8. $1\ P_4 + 5\ O_2 \rightarrow 2\ P_2O_5$
9. $16\ Ag + 1\ S_8 \rightarrow 8\ Ag_2S$
10. $2\ Al + 3\ Br_2 \rightarrow 2\ AlBr_3$
11. $4\ Cr + 3\ O_2 \rightarrow 2\ Cr_2O_3$
12. $2\ NaClO_3 \rightarrow 2\ NaCl + 3\ O_2$
13. $2\ AlBr_3 + 3\ Cl_2 \rightarrow 2\ AlCl_3 + 3\ Br_2$
14. $2\ Na + 2\ H_2O \rightarrow 2\ NaOH + 1\ H_2$
15. $2\ AlI_3 + 3\ HgCl_2 \rightarrow 2\ AlCl_3 + 3\ HgI_2$
16. $3\ Ca(OH)_2 + 2\ H_3PO_4 \rightarrow 1\ Ca_3(PO_4)_2 + 6\ H_2O$
17. $3\ AgNO_3 + 1\ K_3PO_4 \rightarrow 1\ Ag_3PO_4 + 3\ KNO_3$
18. $1\ C_3H_8 + 5\ O_2 \rightarrow 3\ CO_2 + 4\ H_2O$
19. $2\ C_2H_2 + 5\ O_2 \rightarrow 4\ CO_2 + 2\ H_2O$
20. $2\ C_6H_6 + 15\ O_2 \rightarrow 12\ CO_2 + 6\ H_2O$