

Name: _____

Date: _____

- 1 $2 \text{TiO}_{2(s)} + 4 \text{Cl}_{2(g)} + 3 \text{C}_{(s)} \longrightarrow 2 \text{TiCl}_{4(\ell)} + \text{CO}_{2(g)} + 2 \text{CO}_{(g)}$
- 2 $\text{H}_2\text{S}_{(aq)} + \text{Pb}(\text{NO}_3)_{2(aq)} \longrightarrow 2 \text{HNO}_{3(aq)} + \text{PbS} \downarrow$
- 3 $\text{Pb}_{(s)} + \text{PbO}_{2(s)} + 2 \text{H}_2\text{SO}_{4(aq)} \longrightarrow 2 \text{PbSO}_{4(s)} + 2 \text{H}_2\text{O}_{(\ell)}$
- 4 $\text{COCl}_{2(g)} + \text{H}_2\text{O}_{(\ell)} \longrightarrow 2 \text{HCl}_{(aq)} + \text{CO}_{2(g)}$
- 5 $2 \text{H}_2\text{O}_{(\ell)} + \text{CaC}_{2(s)} \longrightarrow \text{Ca}(\text{OH})_{2(s)} + \text{C}_2\text{H}_{2(g)}$
- 6 $2 \text{NO}_{(g)} + \text{O}_{2(g)} \rightleftharpoons 2 \text{NO}_{2(g)}$
- 7 $\text{MnO}_{2(s)} + 4 \text{HCl}_{(aq)} \longrightarrow \text{MnCl}_{2(aq)} + 2 \text{H}_2\text{O}_{(\ell)} + \text{Cl}_{2(g)}$
- 8 $3 \text{HCl}_{(aq)} + \text{Al}(\text{OH})_{3(s)} \longrightarrow \text{AlCl}_{3(aq)} + 3 \text{H}_2\text{O}_{(\ell)}$
- 9 $\text{CaCO}_{3(s)} \xrightarrow{\Delta} \text{CaO}_{(s)} + \text{CO}_{2(g)}$
- 10 $4 \text{C}_3\text{H}_{6(s)} + 6 \text{NO}_{(g)} \longrightarrow 4 \text{C}_3\text{H}_{3\text{N}}_{(s)} + 6 \text{H}_2\text{O}_{(\ell)} + \text{N}_{2(g)}$
- 11 $3 \text{NO}_{2(g)} + \text{H}_2\text{O}_{(\ell)} \longrightarrow \text{NO}_{(g)} + 2 \text{HNO}_{3(aq)}$
- 12 $\text{CaCO}_{3(s)} + \text{H}_2\text{C}_2\text{O}_{4(aq)} \longrightarrow \text{H}_2\text{O}_{(\ell)} + \text{CO}_{2(g)} + \text{CaC}_2\text{O}_{4(s)}$
- 13 $2 \text{CH}_3\text{OH}_{(\ell)} + 3 \text{O}_{2(g)} \xrightarrow{\Delta} 2 \text{CO}_{2(g)} + 4 \text{H}_2\text{O}_{(g)}$
- 14 $\text{CS}_{2(s)} + 3 \text{O}_{2(g)} \xrightarrow{\Delta} \text{CO}_{2(g)} + 2 \text{SO}_{2(g)}$
- 15 $4 \text{P}_{(s)} + 5 \text{O}_{2(g)} \longrightarrow \text{P}_{4\text{O}_{10(s)}}$
- 16 $\text{HC}_7\text{H}_5\text{O}_{3(aq)} + \text{CH}_3\text{OH}_{(\ell)} \longrightarrow \text{C}_8\text{H}_8\text{O}_{3(s)} + \text{H}_2\text{O}_{(\ell)}$
- 17 $3 \text{NiSO}_{4(aq)} + 2 \text{Na}_3\text{PO}_{4(aq)} \longrightarrow \text{Ni}_3(\text{PO}_4)_2 \downarrow + 3 \text{Na}_2\text{SO}_{4(aq)}$
- 18 $3 \text{Cu}_{(s)} + 8 \text{HNO}_{3(aq)} \longrightarrow 3 \text{Cu}(\text{NO}_3)_{2(aq)} + 2 \text{NO}_{(g)} + 4 \text{H}_2\text{O}_{(\ell)}$
- 19 $\text{CO}_{(g)} + 2 \text{H}_2\text{g} \longrightarrow \text{CH}_3\text{OH}_{(\ell)}$
- 20 $\text{H}_{2(g)} + \text{S}_{(s)} \rightleftharpoons \text{H}_2\text{S}_{(g)}$
- 21 $\text{ZnO}_{(s)} + \text{CO}_{(g)} \xrightarrow{\Delta} \text{Zn}_{(s)} + \text{CO}_{2(g)}$
- 22 $(\text{NH}_4)_2\text{Cr}_2\text{O}_{7(s)} \xrightarrow{\Delta} \text{N}_{2(g)} + 4 \text{H}_2\text{O}_{(g)} + \text{Cr}_2\text{O}_{3(s)} + 315 \text{ kJ}$
- 23 $\text{WO}_{3(s)} + 3 \text{H}_{2(g)} \longrightarrow \text{W}_{(s)} + 3 \text{H}_2\text{O}_{(\ell)}$
- 24 $2 \text{N}_2\text{O}_{5(s)} \xrightarrow{\Delta} 4 \text{NO}_{2(g)} + \text{O}_{2(g)}$
- 25 $2 \text{Na}_{(s)} + 2 \text{H}_2\text{O}_{(\ell)} \longrightarrow 2 \text{NaOH}_{(aq)} + \text{H}_{2(g)}$
- 26 $\text{OF}_{2(g)} + \text{H}_2\text{O}_{(g)} \longrightarrow \text{O}_{2(g)} + 2 \text{HF}_{(g)} + 318 \text{ kJ}$
- 27 $2 \text{CH}_4\text{(g)} + 2 \text{NH}_{3(g)} + 3 \text{O}_{2(g)} \xrightarrow{\text{Pt}} 2 \text{HCN}_{(g)} + 6 \text{H}_2\text{O}_{(\ell)}$
- 28 $\text{W}_{(s)} + \text{C}_{(s)} \xrightarrow{1400^\circ\text{C}} \text{WC}_{(s)}$
- 29 $\text{Cl}_{2(g)} + 2 \text{NaOH}_{(aq)} \longrightarrow \text{NaClO}_{(aq)} + \text{NaCl}_{(aq)} + \text{H}_2\text{O}_{(\ell)}$
- 30 $\text{H}_2\text{S}_{(g)} + 20.6 \text{ kJ} \rightleftharpoons \text{H}_{2(g)} + \text{S}_{(s)}$