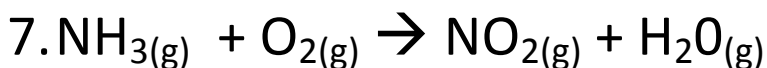
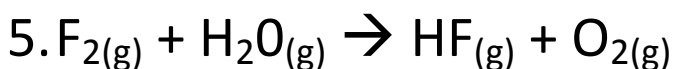
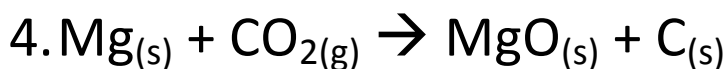
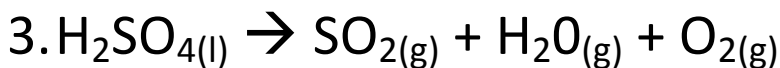
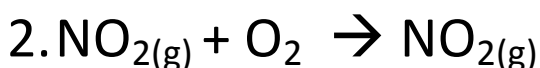
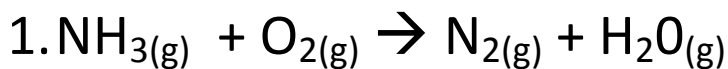


3- Hess's Law Practice (24 marks)

On a separate piece of paper, use Hess's Law to find the ΔH for the following reactions. Make sure to put your name on your answer sheet and to show your work. (24 marks).

On the next page is a table of Standard Enthalpies of Formation.



Standard Enthalpies of Formation (kJ)

$2\text{Ag}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{Ag}_2\text{O}_{(s)}$	-30.66
$\text{C}_{(s)} + 2\text{H}_{2(g)} \longrightarrow \text{CH}_{4(g)}$	-75.18
$2\text{C}_{(s)} + 3\text{H}_{2(g)} \longrightarrow \text{C}_2\text{H}_6(g)$	-84.84
$3\text{C}_{(s)} + 4\text{H}_{2(g)} \longrightarrow \text{C}_3\text{H}_8(g)$	-104.16
$6\text{C}_{(s)} + 3\text{H}_{2(g)} \longrightarrow \text{C}_6\text{H}_6(g)$	83.24
$6\text{C}_{(s)} + 3\text{H}_{2(g)} \longrightarrow \text{C}_6\text{H}_6(l)$	48.85
$\text{Ca}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{CaO}_{(s)}$	-637.98
$\text{Ca}_{(s)} + \text{O}_{2(g)} + \text{H}_2(g) \longrightarrow \text{Ca}(\text{OH})_{2(s)}$	-990.36
$\text{C}_{(s)} + 2\text{H}_2(g) + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{CH}_3\text{OH}_{(g)}$	-202.02
$\text{C}_{(s)} + \text{H}_2\text{O}_{(g)} \longrightarrow \text{CO}_{(g)} + \text{H}_2(g)$	131.40
$\text{C}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{CO}_{(g)}$	-110.94
$\text{C}_{(s)} + \text{O}_{2(g)} \longrightarrow \text{CO}_{2(g)}$	-395.28
$\text{CO}_{(g)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{CO}_{2(g)}$	-283.92
$\text{Cu}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{CuO}_{(s)}$	-155.82
$2\text{Cu}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{Cu}_2\text{O}_{(s)}$	-167.16
$2\text{Fe}_{(s)} + 3/2\text{O}_{2(g)} \longrightarrow \text{Fe}_2\text{O}_{3(s)}$	-825.30
$\frac{1}{2}\text{H}_2(g) + \frac{1}{2}\text{Br}_2(l) \longrightarrow \text{HBr}_{(g)}$	-36.37
$\frac{1}{2}\text{H}_2(g) + \frac{1}{2}\text{Cl}_2(g) \longrightarrow \text{HCl}_{(g)}$	-92.65
$\frac{1}{2}\text{H}_2(g) + \frac{1}{2}\text{F}_2(g) \longrightarrow \text{HF}_{(g)}$	-541.80
$\frac{1}{2}\text{H}_2(g) + \frac{1}{2}\text{I}_2(s) \longrightarrow \text{HI}_{(g)}$	26.04
$\frac{1}{2}\text{H}_2(g) + \frac{1}{2}\text{I}_2(g) \longrightarrow \text{HI}_{(g)}$	-5.04
$\text{H}_2(g) + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{H}_2\text{O}_{(g)}$	-242.76
$\text{H}_2(g) + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{H}_2\text{O}_{(l)}$	-283.46
$\text{H}_2(g) + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{H}_2\text{O}_{(s)}$	-289.47
$\text{H}_2(g) + \text{S}_{(s)} \longrightarrow \text{H}_2\text{S}_{(g)}$	-20.24
$\text{Hg}_{(l)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{HgO}_{(s)}$	-91.14
$\text{Mg}_{(s)} + \frac{1}{2}\text{O}_{2(g)} \longrightarrow \text{MgO}_{(s)}$	-603.96
$\text{Na}_{(s)} + \frac{1}{2}\text{Cl}_2(g) \longrightarrow \text{NaCl}_{(s)}$	-412.44
$\text{Na}_{(s)} + \frac{1}{2}\text{Cl}_2(g) + 3/2\text{O}_2(g) \longrightarrow \text{NaClO}_3(s)$	-359.94
$\frac{1}{2}\text{N}_2(g) + 3/2\text{H}_2(g) \longrightarrow \text{NH}_3(g)$	-46.29
$\frac{1}{2}\text{N}_2(g) + 2\text{H}_2(g) + \frac{1}{2}\text{Cl}_2(g) \longrightarrow \text{NH}_4\text{Cl}_{(s)}$	-316.60
$\frac{1}{2}\text{N}_2(g) + \frac{1}{2}\text{O}_2(g) \longrightarrow \text{NO}_{(g)}$	90.72
$\frac{1}{2}\text{N}_2(g) + \text{O}_2(g) \longrightarrow \text{NO}_2(g)$	34.00
$\text{S}_{(s)} + \text{O}_2(g) \longrightarrow \text{SO}_2(g)$	-297.19
$\text{S}_{(s)} + 3/2\text{O}_2(g) \longrightarrow \text{SO}_3(g)$	-396.69
$\frac{1}{8}\text{S}_8(s) + \text{O}_2(g) \longrightarrow \text{SO}_2(g)$	-298.20
$\frac{1}{8}\text{S}_8(s) + \text{H}_2(g) + 2\text{O}_2(g) \longrightarrow \text{H}_2\text{SO}_4(l)$	-814.80