

WORKSHEET #3

Name:

Date:

Period:

Seat #:

Show all work

$$\Delta H^\circ = \Sigma \Delta H_f^\circ \text{ products} - \Sigma \Delta H_f^\circ \text{ reactants}$$

Directions: use your textbooks appendix to calculate the standard enthalpy change for each of the following reactions using heats of formation. Must show all work to receive credit. These are from another textbook, ΔH_f values may be a bit different.

[1] $\text{__SO}_2(\text{g}) + \text{__O}_2(\text{g}) \rightarrow \text{__SO}_3(\text{g})$	[2] $\text{__Mg(OH)}_2(\text{s}) \rightarrow \text{__MgO}(\text{s}) + \text{__H}_2\text{O}(\text{l})$
	(37.1 kJ)
[3] $\text{__N}_2\text{O}_4(\text{g}) + \text{__H}_2(\text{g}) \rightarrow \text{__N}_2(\text{g}) + \text{__H}_2\text{O}(\text{g})$	[4] $\text{__SiCl}_4(\text{l}) + \text{__H}_2\text{O}(\text{l}) \rightarrow \text{__SiO}_2(\text{s}) + \text{__HCl}(\text{g})$
	(196.6 kJ)
[5] $\text{__HBr}(\text{g}) + \text{__O}_2(\text{g}) \rightarrow \text{__H}_2\text{O}(\text{l}) + \text{__Br}_2(\text{l})$	[6] $\text{__NaOH}(\text{s}) + \text{__SO}_3(\text{g}) \rightarrow \text{__Na}_2\text{SO}_4(\text{s}) + \text{__H}_2\text{O}(\text{g})$
	(68.3 kJ)
[7] $\text{__CH}_4(\text{g}) + \text{__Cl}_2(\text{g}) \rightarrow \text{__CCl}_4(\text{l}) + \text{__HCl}(\text{g})$	[8] $\text{__Fe}_2\text{O}_3(\text{s}) + \text{__HCl}(\text{g}) \rightarrow \text{__FeCl}_3(\text{s}) + \text{__H}_2\text{O}(\text{g})$
	(382.5 kJ)
	(426.74 kJ)
	(433.7 kJ)
	(150 kJ)