2. Base your answers to the following questions on Reference Table I.

a) The combustion of which compound will release the greatest amount of energy? _____

b) The combustion of which compound will release the least amount of energy? _____

c) Which compound will absorb the greatest amount of energy when it dissolves in water? _____

d) Which compound will absorb the least amount of energy when it dissolves in water? _____

e) Which compound will release the greatest amount of energy when it dissolves in water? _____

f) Which compound will release the least amount of energy when it dissolves in water? _____

g) How many kilocalories are released when 2 moles of NaOH (s) is dissolved in water?

_____

h) How much energy is absorbed when 0.5 mole of NH_4Cl is dissolved in water?

_____

Regents Chemistry
Unit 5 Worksheet

Name _____

Reaction	ΔH (kJ)	Endothermic or Exothermic
$CH_4(g) + 2O_2(g) \rightarrow CO_2(g) + 2H_2O(l)$		
$H_2(g) + O_2(g) \rightarrow 2H_2O(g)$		
$C_2H_5OH(l) + 3O_2(g) \rightarrow 2CO_2(g) + 3H_2O(l)$		
$C_3H_8(g) + 5O_2(g) \rightarrow 3CO_2(g) + 4H_2O(g)$		
$4H_2O(g) + 3CO_2(g) \rightarrow C_3H_8(g) + 5O_2(g)$		
$I_2(s) + H_2(g) \rightarrow 2HI(g)$		
$CO_2(g) \rightarrow C(s) + O_2(g)$		
$NH_4Cl(s) \rightarrow NH_4^+(aq) + Cl^-(aq)$		
$2CO_2(g) + 4H_2O(l) \rightarrow 2CH_3OH(l) + 3O_2(g)$		
$2Al_2O_3(s) + 4Al(s) \rightarrow 3O_2(g)$		
$2CO(g) + O_2(g) \rightarrow 2CO_2(g)$		
$4NO(g) + 2H_2O(g) \rightarrow 2N_2(g) + 2O_2(g)$		

1. In your reverse reaction, what happens to the magnitude of ΔH? What happens to the sign?

2. If you double the coefficients of the reactants and products in your reaction, what happens to the magnitude of ΔH? What happens to the sign?

3. Given ΔH for a reaction, how would you find ΔH for the reverse reaction? Is this thermochemical equation?

4. If a given reaction is endothermic, will heat be found on the same side of the equation as the products or not?

5. If a given reaction is endothermic, what will be the sign for ΔH for the reverse reaction?