

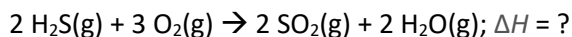
## Friday Worksheet

Name: .....

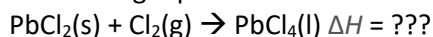
### Enthalpy worksheet 8

Consider

- 1) When 24.6 g of  $\text{H}_2\text{S}$  was burned in excess oxygen, 376 kJ was released. What is the  $\Delta H$  for the following equation?



- 2) Calculate  $\Delta H$  for the following equation:

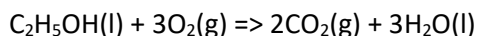


Given: 1) ----  $\text{Pb}(\text{s}) + \text{Cl}_2(\text{g}) \rightarrow \text{PbCl}_2(\text{s}) \Delta H_1 = -359.4 \text{ kJ mol}^{-1}$

2) ----  $\text{Pb}(\text{s}) + 2 \text{Cl}_2(\text{g}) \rightarrow \text{PbCl}_4(\text{l}) \Delta H_2 = -329.3 \text{ kJ mol}^{-1}$

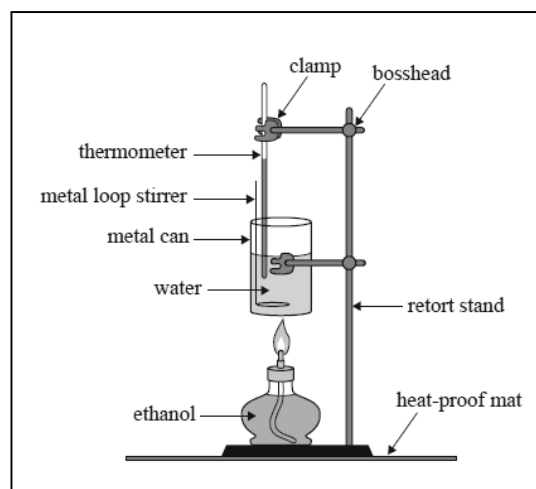
- 3) Give a balanced thermochemical equation for the combustion reaction of liquid octane in excess oxygen at SLC. Show all states and the  $\Delta H$  of the reaction. You may need to refer to your VCAA Data Booklet

- 4) The enthalpy for the combustion of ethanol is provided in the data book. This combustion of ethanol is represented by the following equation.



A spirit burner used 1.90 g of ethanol to raise the temperature of 100.0 g of water in a metal can from 27.0 °C to 42.0 °C.

- a) Calculate the percentage of heat lost, in other words, did not find its way into the water.



- b) The heat content of coal is measured kJ/gram. Why is it not measured in kJ/mol?