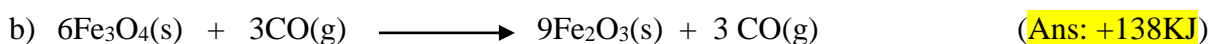


## Thermochemistry/HW-Thermochemical equations and Stoichiometry

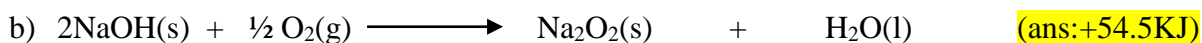
Name: \_\_\_\_\_

Show all the work for the calculations and give the answers in the correct significant figures.

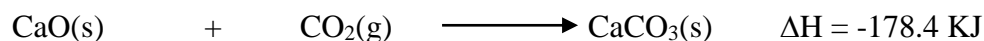
1. Given the reaction of iron (III) oxide with carbon monoxide below, determine the  $\Delta H$  for the two reactions below.



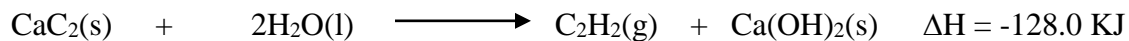
2. Given the reaction below of sodium peroxide with water, determine the  $\Delta H$  for the equations below.



3. Calcium oxide reacts with carbon dioxide to form calcium carbonate (Chalk). How many KJ of heat are evolved in the reaction of 0.500 Kg of CaO with excess of carbon dioxide? (Ans: -1591 KJ)



4. Calcium carbide reacts with water to form acetylene, a gas used in welding. How many KJ of heat are evolved in the reaction of 3.50 Kg of  $\text{CaC}_2$  with 1.25 L of  $\text{H}_2\text{O}$ ? (ans:-4440KJ)



5. How many liters of  $\text{CO}_2$  gas, measured at  $23^\circ\text{C}$  and 779 Torr are produced when  $4.45 \times 10^7$  KJ of heat is evolved in the burning of butane? (ans:  $1.46 \times 10^6 \text{ L CO}_2$ )

