Name: _____   **Section:** _____

Partner's Name _____   **Date:** _____

CALORIMETRY

DATA SHEET

Part 1: Hydration of NaOH

Mass of Calorimeter (W_1), g _____

Mass of Calorimeter + Water (W_2), g _____

Initial Temperature (T_i), °C _____

Mass of Calorimeter + Water + NaOH (W_3), g _____

Mass of NaOH ($W_3 - W_2$), g _____

Mass of Solution ($W_3 - W_1$), g _____

Final Temperature interpolated from Graph (T_f), °C _____

Final Temperature calculated from regression lines (T_f), °C _____

Heat absorbed by the solution, kJ _____

ΔH_{soln}, kJ _____

Moles of NaOH, mol _____

Molar enthalpy of solution, kJ·mol^{-1} _____

Part 2: Neutralization of NaOH

Concentration of HCl used, M   _____

Volume of HCl used, mL   _____

Initial Temperature of HCl before mixing, °C   _____

Initial Temperature of NaOH before mixing, °C   _____

Average initial Temperature(T_i), °C   _____

Mass of Calorimeter + Solution after cooling (W_4), g   _____

Mass of Solution ($W_4 - W_1$), g   _____

Final Temperature from Graph (T_f), °C   _____

Final Temperature calculated from regression lines (T_f), °C   _____

Heat released by the neutralization, kJ   _____

Moles of HCl, mol   _____

Mol of HCl required, mol   _____

Limiting reagent   _____

Molar enthalpy of neutralization, kJ·mol^{-1} _____