

CALORIMETRY WORKSHEET

- 1) A compound is burned in a bomb calorimeter that contains 3.00 L of water. If the combustion of 0.285 moles of this compound causes the temperature of the water to rise 36.0° C, what is the molar heat of combustion of the compound?
- 2) When 62.3g of a compound was burned in a bomb calorimeter that contained 0.500 L of water the temperature rise of the water in the calorimeter was 48.0° C. If the heat of combustion of the compound is 1,160 kJ/mol, what is the molar mass of the compound?
- 3) The molar heat of combustion of a compound is 1,350 kJ/mol. If 0.875 moles of this compound was burned in a bomb calorimeter containing 1.70 L of water, what would the increase in temperature be?

$$C_p (\text{H}_2\text{O}) = 4.184 \text{ J} / \text{g}^\circ\text{C}$$
$$\Delta H = mC_p\Delta T$$