$C_p\ (H_2O) = 4.184\ J / g^0C$

$\Delta H = mC_p\Delta T$

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 36.0^0 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 48.0^0 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?