Chem. 120 Review of Thermochemistry

1. Key terms
* calorie –
* heat –
* temperature –
* potential energy (PE) –
* kinetic energy -
* Exothermic reaction -
* Endothermic reaction -
* heat of reaction –
* Heat capacity (C) –
* Specific heat (c) –
1. Aluminum has a specific heat of 0.902 J/g·oC. How much heat is lost when a piece of aluminum with a mass of 23.984 g cools from a temperature of 415.0oC to a temperature of 22.0oC?
2. How much total heat (in kJ) is transferred when 52.7g of water decomposes as shown in the equation?

\_\_\_ H2O*(l)* → \_\_\_ H2*(g)* + \_\_\_ O2*(g)* ∆H = +572.1 kJ

1. Calculate how many Joules of energy are required to heat 180g of H2O from 50°C to 150°C

Specific heat: H2O(*s*) = 2.09 J/g K H2O(*l*) = 4.18 J/g K H2O(*g*) = 1.84 J/g K

Phase change heat: ΔHfus = 6.01 kJ/mol ΔHvap = 44.0 kJ/mol