Exam #5 Objectives

CHEM 1090 General Chemistry I

Text Reading

Chapter 5: sections 1-6

Homework Assignment

McGraw-Hill LearnSmart and Connect online assignments.

Concepts

1. Discuss heat and temperature and how they are related to each other.
2. Discuss the relationship between system and surroundings.
3. Determine whether physical and chemical changes are endothermic or exothermic based on the sign for the energy change.
4. Demonstrate the ability to do calorimetry and specific heat problems.
5. Write a standard enthalpy of formation thermochemical equation for a given substance.
6. Use standard enthalpy of formation thermochemical equations to calculate the the standard enthalpy of reaction for a given chemical equation.
7. When given a series of thermochemical equations, calculate the standard enthalpy of reaction for a given chemical equation.
8. Demonstrate a working vocabulary of the following terms:

calorimetry	heat capacity	surroundings
endothermic	heat of reaction	system
enthalpy	Hess's Law	temperature
enthalpy of formation	path independent	thermochemical equation
enthalpy of reaction	specific heat	universe
exothermic	state	
heat	standard state	

9. Note: if you are asked to show your work then you may not simply add/subtract standard enthalpies of formation to calculate the standard enthalpy of reaction. You must do it as we will work it in lecture by manipulating thermochemical equations and **you will not get any credit on any exam questions you solve using the following**:

$$\Delta H^\circ = \sum \Delta H^0_{f,products} - \sum \Delta H^0_{f,\text{reactants}}$$