7.4 Part 2 Le Chatelier’s Principle and Changes in Energy

|  |  |
| --- | --- |
| Endothermic Reaction  | Exothermic Reaction  |
| Provide an example  | Provide an example  |
| What happens when energy is added? Which direction will the system shift?  | What happens when energy is added?  |

Le Chatelier’s Principle and changes in Gas Volume (p. 443)

Define the following:

* ideal gas (p.443)
* partial pressure (p. 443)

Use a diagram to show how Boyle’s applies to molecules and which direction will it move (p. 444)

Changing an Equilibrium System **without affecting** Equilibrium Position (p. 444)

|  |  |
| --- | --- |
| Methods  | Explanation  |
| Catalysts  |  |
| Inert Gas  |  |
| State of Reactants |  |

Do and apply, P. 446, # 1 and 2.

7.5 Calculating Equilibrium Concentrations

Review: concentration c= n/V= mol/L

n =

V= units

Calculating concentrations if you have a volume of 2.00L,.all are in gas state.

Given a PCl5 = 0.00870 mol

Given a PCl3= 0.298 mol

Given a Cl2 = 0.00

Change is

PCl5 is -0.001 mol/L

PCl3 is +0.001 mol/L

Cl2 is +0.001 mol/L

What is the balanced equation and create and solve the ICE table and determine the K value for this reaction.

Do and Apply, p. 454, Practice # 1 and 2.

7.6 Determine Ksp

Practice: Write a solubility product constant for the solid of CaF2 and 2 F ions and Ca ion both in aqueous state.

Do and apply, p. 462.

If you finish you can start working on section 8.2 calculations, p.

Define the following:

Strong acid (p. 495)

Weak acid (p. 495)

Analyze table 2; Compare value of Ka for each one, position of ionization equilibrium, and concentration of HNO3 Acid

Determine the Ka for HClO4 into H and Cl04:

Define oxyacid (p. 496); organic acid (p. 497), strong base (p. 497) weak base (498); base ionization (Kb) determine the Kb for NH3 and water into a hydroxide ion and NH4+ ammonium ion.

Define autoionization of water (p. 499); ion-product constant for water (Kw)