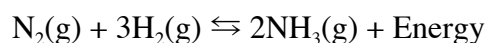


Name _____

Period _____

**Le Chatelier's Principle
Practice Problems #2**

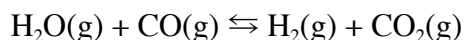
1) In the equilibrium reaction for the formation of Ammonia:



Fritz Haber predicted that you could increase the production of ammonia by varying the initial conditions of the reaction. Predict the direction of equilibrium shift if the following changes occur:

- a) nitrogen gas is added
- b) hydrogen gas is removed
- c) NH_3 is added
- d) NH_3 is removed
- e) a catalyst is added
- f) the pressure is decreased
- g) the temperature is increased

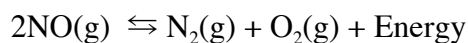
2) In the equilibrium reaction:



Predict the direction of equilibrium shift if the following changes occur.

- a) H_2O is added
- b) H_2O is removed
- c) CO is added
- d) CO is removed
- e) H_2 is added
- f) H_2 is removed
- g) the pressure is increased

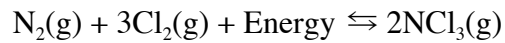
3) In the equilibrium reaction:



Predict the direction of equilibrium shift if the following changes occur.

- a) the pressure is increased
- b) energy is added
- c) volume of the system is increased
- d) it is placed in an ice bath

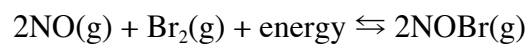
4) In the equilibrium reaction:



Predict the direction of equilibrium shift if the following changes occur.

- a) the pressure is increased
- b) energy is added
- c) volume of the system is increased
- d) it is placed in an ice bath

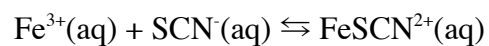
5) In the equilibrium reaction:



Suggest six ways to increase the concentration of NOBr(g)

- a)
- b)
- c)
- d)
- e)
- f)

6) Consider the following solution equilibrium reaction which we studied in lab:



Suggest five chemicals to add to increase the concentration of FeSCN²⁺(aq)

- a)
- b)
- c)
- d)
- e)

Suggest five chemicals to add to decrease the concentration of FeSCN²⁺(aq)

- a)
- b)
- c)
- d)
- e)