Equilibrium Questions – Part 2

1. How can you tell if a system is at equilibrium? List as many indicators as you can.

2. Given that a chemical reaction is at equilibrium, what is taking place on the molecular level?

3. What must a certain force be available in order for a given rxn to occur? What exactly happens in a reaction?

4. List possible influences on the chemical equilibrium by considering all the reactants and products?

5. What is meant by the statement "equilibrium can be approached from either direction"?

6. Which does the equilibrium constant (K) represent? What could change the value of K?

7. When writing an equilibrium expression, substances that are pure solids or pure liquids are not incorporated. Why?

8. Write an expression for the following equilibrium reactions:

(a) $N_2 + 3H_2 \rightleftharpoons 2NH_3$ $\quad K =$

(b) $2NH_3 + 5O_2 \rightleftharpoons 4NO + 6H_2O$ $\quad K =$

9. What can be determined about a reaction from the magnitude of its K value?