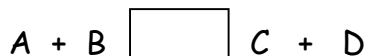


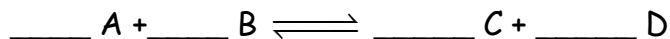
A reaction in which the _____ can react to form the _____ is called a _____ reaction.



Chemical _____ occurs when the _____ in a _____ reaction form _____ at the same _____ that _____ form _____.

At equilibrium:

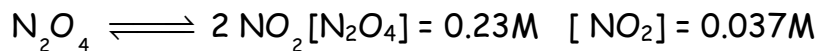
- the _____ of the reactants and products does not _____.
- the concentration of reactants can be _____ to, _____, or _____ the concentration of the products.



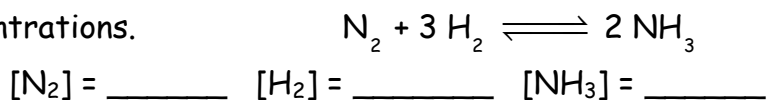
$$K_{eq} = \frac{[\]^c [\]^d}{[\]^a [\]^b}$$

If K_{eq} is	_____ reaction is favored
= 1	neither
< 1	
> 1	

Ex. #1: Calculate K_{eq} for the following reaction using the given equilibrium concentrations. Then determine whether the forward or reverse reaction is favored.



Ex. #2: Calculate K_{eq} for the following reaction using the given equilibrium concentrations.



The _____ reaction is favored.

LeChatelier's Principle:

When a _____ is applied to a system in equilibrium, the system reacts in a way to _____ the stress.

STRESS	SYSTEM WILL SHIFT
addition of a chemical	
removal of a chemical	
increase in temperature	
decrease in temperature	
* increase in pressure	
* decrease in pressure	
addition of a catalyst	

* applies to reactions involving gases only

examples: $N_2 (g) + 3 H_2 (g) \rightleftharpoons 2 NH_3 (g) + \text{heat}$

- When H_2 is added to the system, the reaction shifts to the _____ to use up the extra H_2 . The amount of _____ produced will increase.
- What if _____ is removed, the reaction shifts to the _____ trying to replenish the N_2 .
- When the temperature increases, the reaction shifts to the _____.
- When the pressure of the system increases, the reaction shifts to the _____, toward the side with _____ particles.
- When a catalyst is added _____.

When an equilibrium system shifts to the:	[products]	[reactants]
right		
left		

The Chemistry Quiz
CR1. CR2.

1. 2. 3. 4. 5.