

Participation Assignment

CHEM 1100-General Chemistry II

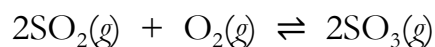
Name:

#10

Section: 31, MWF

Due Date: Friday 8/4/2017

1. At 800 K, equilibrium concentrations for the formation of sulfur trioxide, SO_3 , were:



$$[\text{SO}_2]_{\text{eq}} = 0.0030 \text{ M} \quad [\text{O}_2]_{\text{eq}} = 0.0035 \text{ M} \quad [\text{SO}_3]_{\text{eq}} = 0.050 \text{ M}$$

Calculate the equilibrium constant.

2. Determine the reaction quotient for the following conditions:

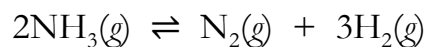


$$[\text{H}_2] = 0.10 \text{ M} \quad [\text{I}_2] = 0.20 \text{ M} \quad [\text{HI}] = 0.40 \text{ M}$$

$[\text{H}_2] \text{ (M)}$	$[\text{I}_2] \text{ (M)}$	$[\text{HI}] \text{ (M)}$		
0.10	0.20	0.40		
0.011	0.013	0.18		
0.15	0.016	0.37		

3. Le Châtelier's principle:

Stress:



Change the concentrations $K_c = 422$ at 720°C

[NH₃] (M)	[N₂] (M)	[H₂] M		
1.05	0.683	8.80		
3.65	0.683	8.80		
0.665	0.683	8.80		

Change the pressures (or volume) $K_p = 2.80 \times 10^6$ at 720°C

NH₃ (atm)	N₂ (atm)	H₂ (atm)		
0.00200	0.100	4.82		
0.00400	0.200	9.64		
0.00100	0.050	2.41		

Change the temperature

