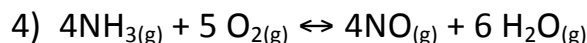
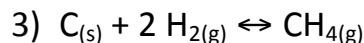
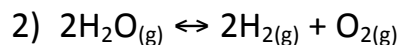
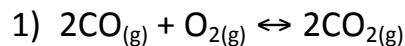
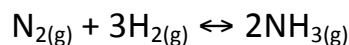


**SCH4U: 4-2: Equilibrium Constant Practice**

Write the equilibrium constant expression for the following reactions:



5) Calculate the  $K_{eq}$  given the following information:



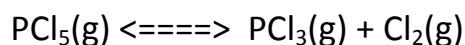
At equilibrium:

$[\text{NH}_{3(g)}] = 2.00 \times 10^{-4} \text{ mol/L}$

$[\text{N}_{2(g)}] = 1.50 \times 10^{-5} \text{ mol/L}$

$[\text{H}_{2(g)}] = 3.54 \times 10^{-1} \text{ mol/L}$

6. When 0.40 moles of  $\text{PCl}_5$  are placed in a 10.0 L container, an equilibrium is established in which 0.25 moles of  $\text{Cl}_2$  are measured.

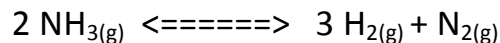


a) What is the number of moles of  $\text{PCl}_5$  and  $\text{PCl}_3$  at equilibrium?

b) What are the equilibrium concentrations of all three components?

c) Calculate  $K_{eq}$

7. When 1.00 mole of  $\text{NH}_3$  gas and 0.40 moles of  $\text{N}_2$  gas are placed in a 5.0 L container and allowed to reach an equilibrium at 50 °C, it is found that 0.78 moles of  $\text{NH}_3$  are present.



a) What are the number of moles of  $\text{H}_2$  and  $\text{N}_2$  at equilibrium?

b) What is the equilibrium concentration in moles/L of each species?

c) Calculate  $K_{eq}$