

General Chemistry
Mr. MacGillivray
Quiz #35:
Chemical Equilibrium and K_{eq}

1. Which phases of matter **are** represented in the equilibrium constant expression for a chemical reaction? (circle the correct answer or answers)

solid

liquid

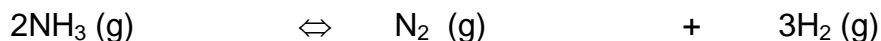
gas

(aq)

The following reaction shows the decomposition of CaCO_3 (s) at high temperatures.



2. Write the equilibrium constant expression for the reaction above.
3. Write the equilibrium constant expression for the reaction shown below.



4. Calculate the equilibrium constant for the reaction above, given the following data:
- $[\text{NH}_3] = 0.34 \text{ M}$ $[\text{N}_2] = 4.9 \times 10^{-4} \text{ M}$ $[\text{H}_2] = 2.1 \times 10^{-3} \text{ M}$

5. The K_{eq} for the reaction shown below is 10.0. Is the reaction at equilibrium when $[\text{A}] = 3.00 \text{ M}$ and $[\text{B}] = 30.0 \text{ M}$? Why or why not? Show K_{eq} expression and calculations to support your answer.

