1. NH₃(aq) solutions have pH>7. How would you characterize such a solution? What ion would you expect to be present? Where might that ion come from?

2. Knowing that NH₃(aq) solutions have pH>7, complete the following chemical equation.

   \[ \text{NH}_3(aq) + \text{H}_2\text{O} \rightarrow \]

   Describe the role that water plays in this reaction. How does the water interact with NH₃?

3. Describe what happens to the NH₃ in this reaction and what substance is produced.

   The relationship between NH₃ and its product is said to be a conjugual one. The substances are said to be conjugates of each other. What is the conjugate acid for water? What is its conjugate base?
4. The transfer of a proton (H\(^+\)) from acid to conjugate base characterizes the Brønsted-Lowry Theory of acids and bases. Identify differences between the Brønsted-Lowry Theory and the Arrhenius Theory. Identify examples of Brønsted-Lowry bases that are not also Arrhenius bases. Identify examples of Brønsted-Lowry acids that are not also Arrhenius acids.

5. Identify the conjugate bases for each of the following acids.
   a. NH\(_4^+\)
   b. H\(_3\)PO\(_4\)
   c. H\(_2\)O

6. Identify the conjugate acid for each of the following bases.
   a. Br\(^-\)
   b. HSO\(_4^-\)
   c. H\(_2\)O