1. Determine whether the following molecules can react via an $S_N1$ and/or an $S_N2$ mechanism.

   a. 
   b. 
   c. 
   d. 
   e. 
   f. 

2. a. Which mechanism can account for the formation of the product in the following reaction $S_N1$ or $S_N2$?

   b. Draw a mechanism that accounts for the formation of the product in the following reaction.

   \[ \text{H}_2\text{O} + \text{Br} - \rightarrow \text{Br}^{-} + \text{H}^{+} \]

3. Predict the products of the following reactions. Remember to consider the stereochemistry of the product(s).

   a. $S_N2$

   \[ \text{N} = \text{C}^- + \text{Br} - \rightarrow \text{D} \]

   b. $S_N1$

   \[ \text{CH}_3\text{OH} + \rightarrow \]