1. Look at each of the following compounds and decide if it is aromatic, anti-aromatic, or non-aromatic.

- antiaromatic (8 π electrons)
- aromatic (10 π electrons, N is sp³ hybridized)
- non-aromatic (N=N, one lone pr on bottom N)

2. What are the products of two of the following three reactions. Choose only two.

- a. 
  \[
  2 \xrightarrow{\text{KCl, HOCl}} \text{OCH}_3 \xrightarrow{\text{KCl, HOCl}} \text{OCH}_3
  \]
  [Hint: Claisen]

- b. 
  \[
  \xrightarrow{1) \text{NaOH, H}_2\text{O}} \text{OCH}_3 \xrightarrow{2) \text{Et-I, THF}} \text{OCH}_3
  \]

- c. 
  \[
  \xrightarrow{1) \text{Ph}_2\text{CuLi}} \text{OCH}_3 \xrightarrow{2) \text{H}_3\text{O}^\oplus} \text{OCH}_3
  \]
  [Hint: Michael]

3. Draw a complete arrow pushing mechanism to account for this product formed in the reaction below. Be sure to include all intermediates, resonance structures, etc.
KOH, MVK

[Hint: Robinson]