1. (10 pts ea.) Predict the products of the following reactions.

a. E2

b. E2

c. E1

$$H_2SO_4, H_3PO_2$$

2. (10 pts.) In the following reaction, 1-pentene is the major product. Draw 1-pentene and explain why the less substituted alkene is the major product of the reaction.

3. (10 pts.) Draw a mechanism for the following reaction.