Name:			

- 1. What is the hybridization and molecular geometry for the nitrogen atom molecule below? (1 point)
 - a. sp, linear

c. sp³, tetrahedral

- b. sp², trigonal planar
- d. sp³, trigonal pyramidal



- 2. What is the hybridization and molecular geometry for the nitrogen atom molecule below? (1 point)
 - a. sp, linear

- c. sp³, tetrahedral
- b. sp², trigonal planar
- d. sp³, trigonal pyramidal



- 3. a. Draw as many reasonable resonance structures as you can for the following molecules using correct curved arrows to show electron movement.
 - b. Label the major resonance contributor and provide a one phrase explanation. (4 points)

- 4. a. Provide products **and** curved arrows for the following acid base reaction.
 - b. Provide the pK_a of the acid **and** conjugate acid and use this to predict the direction and magnitude of the equilibrium (4 points)