

Name:

Chem 343 Reich Review Quiz 0A  
September 5, 2007

1. How many valence electrons do the following atoms or ions have?

- a) Carbon atom \_\_\_\_                      d) Calcium ion ( $\text{Ca}^{2+}$ ) \_\_\_\_  
b) Phosphorus atom \_\_\_\_                  e) Fluoride ion ( $\text{F}^{1-}$ ) \_\_\_\_

2. Draw the Lewis structure of water.

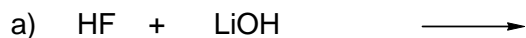
3. Draw the Lewis structure of 1,3-dichloropropane.

4. The  $\text{pK}_a$  of HCN is 10 and the  $\text{pK}_a$  of acetic acid is 5. Which is a stronger **base** cyanide anion or acetate anion?

5. Give an example of a carbon compound containing a  $\pi$ (pi) bond. **Circle** the pi bond. What kind of atomic orbitals are used in  $\pi$  bonding?

6. What is the oxidation number of Mn in  $\text{KMnO}_4$ ?

7. Complete the following acid-base equations.



8. What is the pH of 0.1 M HCl solution in water?

9. The equilibrium constant for the following reaction is 99. What is the percentage of A present at equilibrium?

