Chapter 10 worksheet- CHM 2045

Disclaimer: These problems were not written nor reviewed by Dr. Calvo or Jurca and should only be used as a study aid. Not all of the information or topics is guaranteed to be on your exam/quizzes, and there may questions from topics not listed on here. Please refer back to your powerpoints, lectures, and textbook. Please bring any questions regarding material to sessions and Good Luck on your Exam!

1. Write the Lewis structure for each molecule.
   A. PH_3 B. SCl_2 C. HI D. CH_4

2. Determine if a bond between each pair of atoms would be pure covalent, polar covalent, or ionic.

   a. Br and Br b. C and Cl c. C and S d. Sr and O

3. Draw the Lewis structure for CO with an arrow representing the dipole moment.

4. Write the Lewis structure for each molecule or ion.

   a. CI_4 b. N_2O c. SiH_4 d. $ClCO_2$

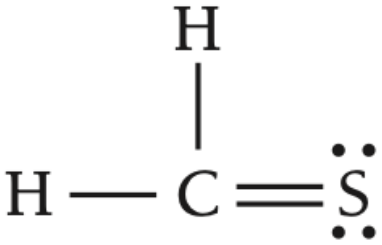
5. Write the Lewis structure for each molecule or ion.

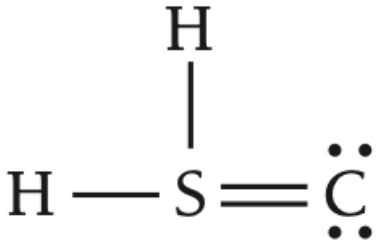
   a. N_2H_2 b. N_2H_4 c. C_2H_2 d. C_2H_4

6. Write a Lewis structure that obeys the octet rule for each molecule or ion. Include resonance structures if necessary and assign formal charges to each atom.

   a. SeO_2 b. CO_3^{-2} c. ClO^- d. NO^{2-}

7. Use formal charge to identify the better Lewis structure.





8. Draw the Lewis structure (including resonance structures) for the acetate ion (CH3COO-). For each resonance structure, assign formal charges to all atoms that have formal charge.

9. Write the Lewis structure for each molecule (octet rule not followed).
   a. BCl_3 **b.** NO_2 **c.** BH_3

10. Write Lewis structures for each molecule or ion. Use expanded octets as necessary.
    a.PF_5 b. I_3^- c. SF_4 d. GeF_4