

Name _____

CHM 115 QUIZ #3
Practice

Answer the following. Provide as much information as required to answer the question clearly.

(5 points)

1. (a) Complete the **LEWIS SYMBOLS** of the elements listed below by adding the correct number of electrons to each:

H C N O Cl

(15 points)

2. For the following molecules and ion CO, N₂, NO, N₂⁺, do the following:

(a) Draw the Lewis structure (use resonance **ONLY** if it is needed). Also, calculate and **SHOW** the formal charge **on each atom in each structure**, (find the average formal charge if you used resonance structures)

CO

N₂

NO

N₂⁺

Which of the structures do not obey the octet rule? Explain why not?

(continued)

(8 points)

3. In the space below do the following: draw the best Lewis structures of the species PCl_3 and PCl_5 . Comment on the number of electrons around the P atom in each structure.

(22 points)

4. For the following three species complete the tasks listed in columns I. and II.

I. Draw the best Lewis structure(s) using resonance as needed.

II. Calculate the formal charges on the oxygen atoms (use averages where resonance necessitates).

