

Name Key Name _____
 Sign _____ Print (bc can't read signature)

Please **show work on all questions** for full credit & partial credit. (20 total pts).

1. Given the following, circle the appropriate element. (6 pts, 2 pts each)

Larger atomic radius [(P) or (Sb)] (circle one)

Higher Ionization Energy [(C) or (F)] (circle one) *radius - smaller IE*

Lower electronegativity [(Si) or (Cl)] (circle one)

2. Give the electron configuration for the Br⁻¹ ion using the notation 1s², 2s².... Starting from 1s² (3 pts)

1s², 2s², 2p⁶, 3s², 3p⁶, 4s², 3d¹⁰, 4p⁶

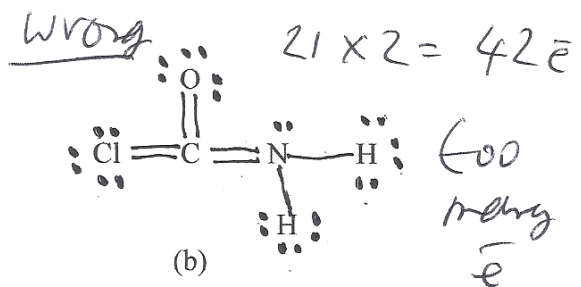
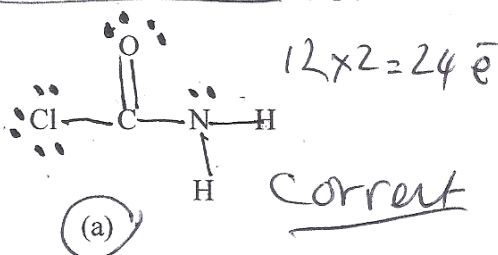
3. For the compound Cl C O NH₂ (5 pts)
 a. Show the valence electron count for drawing a Lewis Dot structure. (3 pts)

7 + 4 + 6 + 5 + 2(1) = 24e

Cl C O N H

unrelated -3

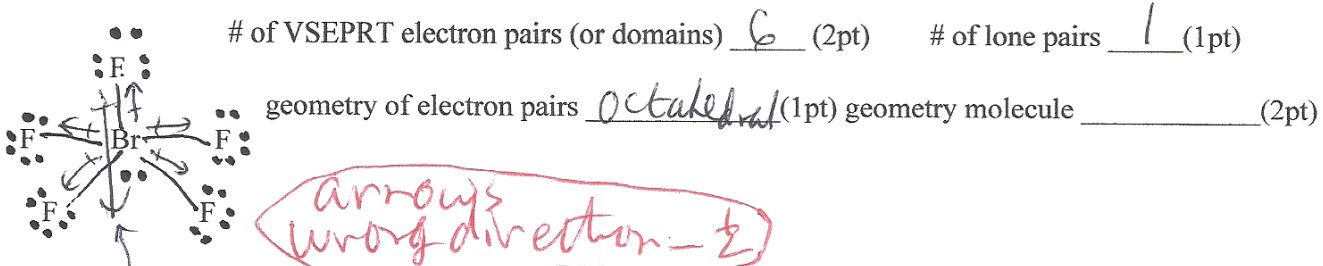
b. Given the following two Lewis Dot structures, which is the correct Lewis Dot structure. Circle the letter of the correct structure (1 pt)



c. Give **one reasons** why the structure that you said is incorrect is wrong. (1 pts)

1 too many e 2 N, C cannot expand octet 3 H has octet can only duet

4. For the molecule whose correct Lewis Dot structure is shown below, answer the following about the central Br atom. (6 pts total)



Extra Credit: (a) On the Lewis Dot structure above, show individual bond dipole moment arrows. (b) Draw the vector sum dipole moment arrow. (c) Is the molecule as a whole (polar) or (nonpolar)] (circle one)(3pt)