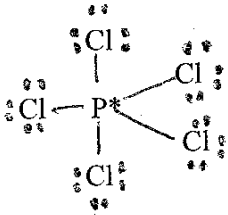


Name Keyz Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*. *yellow*

The Lewis Dot structure is an (a) expanded octet (b) less than an octet structure (c) incorrect structure ] (circle one) (5 pts)



*p 3rd period element - can expand octet*

2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts) (a) longest bond length (b) medium bond length (c) shortest bond length

C=C b

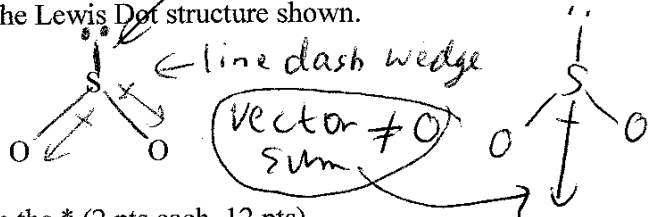
C-C a

C≡C c

3. Complete the following VSEPR chart for the Lewis Dot structure shown.



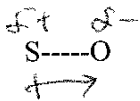
*double bond counts as 1 bond*



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs 3      b. How many lone pairs 1  
 c. What is the geometry of the electron pairs? trigonal planar  
 d. What is the geometry of the molecule? bent  
 e. What is the hybridization sp<sup>2</sup>      f. What is, are the bond angle 120°

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol δ



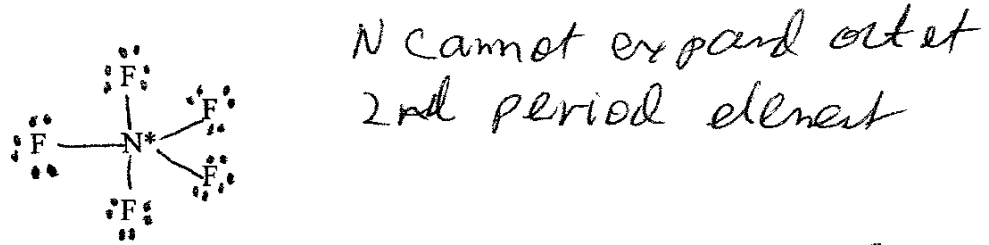
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name Key Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*.

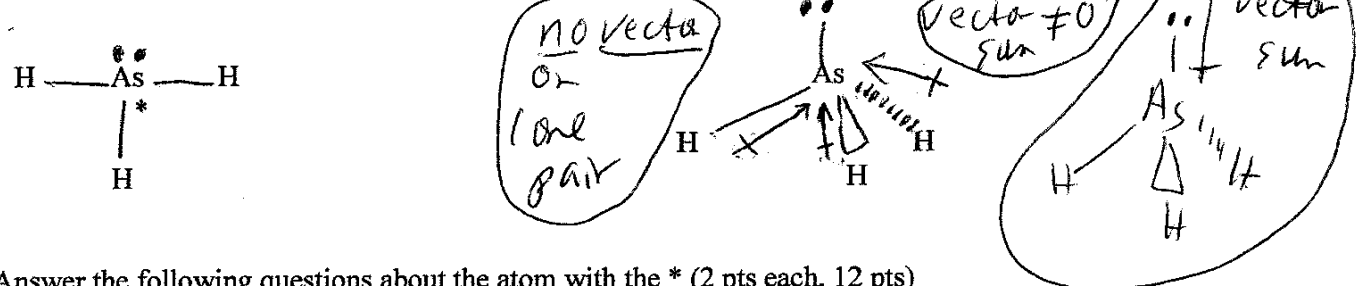
The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)



2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts)  
 (a) longest bond length (b) medium bond length (c) shortest bond length

C-C (a)      C≡C (c)      C=C (b)

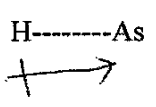
3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs 4
- b. How many lone pairs 1
- c. What is the geometry of the electron pairs? tetrahedral
- d. What is the geometry of the molecule? trigonal pyramidal
- e. What is the hybridization sp<sup>3</sup>
- f. What is, are the bond angle 109.5°

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol δ



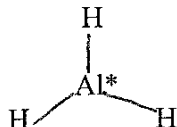
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name Key Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

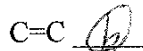
1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*.

The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)

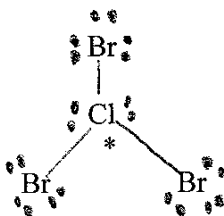


Group IIIA is often less than octet

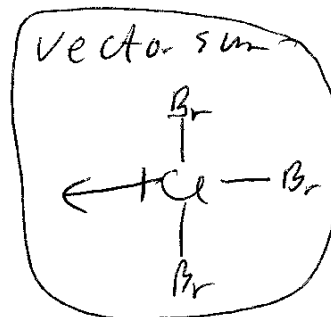
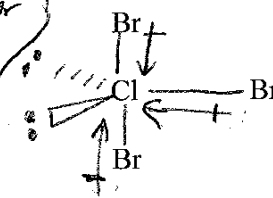
2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts)  
 (a) Highest bond strength (b) medium bond strength (c) lowest bond strength



3. Complete the following VSEPR chart for the Lewis Dot structure shown.



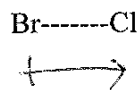
no vector for lone pair



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs 5      b. How many lone pairs 2  
 c. What is the geometry of the electron pairs? trigonal bipyramidal  
 d. What is the geometry of the molecule? T shaped net really 120°  
 e. What is the hybridization sp<sup>3</sup>d      f. What is, are the bond angle 120° & 90°

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol δ



Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

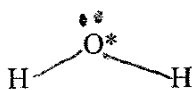
The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name Key  
(print name)

Name \_\_\_\_\_  
(sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*.

The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)

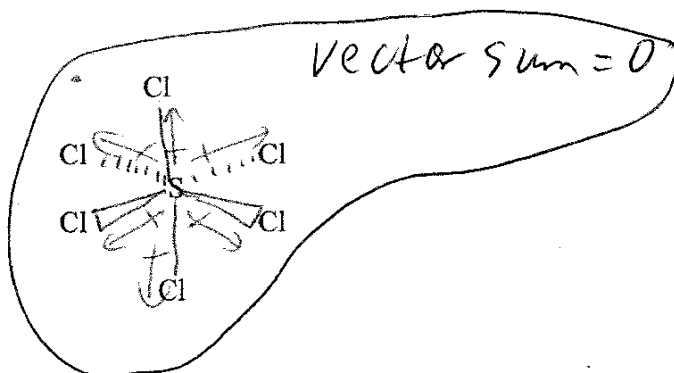
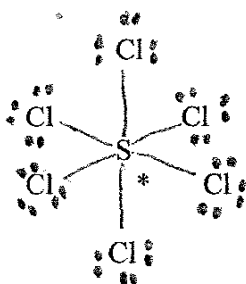


will accept either B or C  
really C - too few e structure + 0  
not octet

2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts) (a) Highest bond strength (b) medium bond strength (c) lowest bond strength



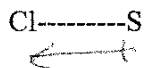
3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs 6      b. How many lone pairs 0  
c. What is the geometry of the electron pairs? octahedral  
d. What is the geometry of the molecule? octahedral  
e. What is the hybridization sp<sup>3</sup>d<sup>2</sup>      f. What is, are the bond angle 90°

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol δ



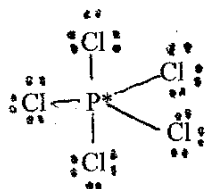
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one) totally symmetric structure, vector sum = 0

Name \_\_\_\_\_ Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*. *yellow*

The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)



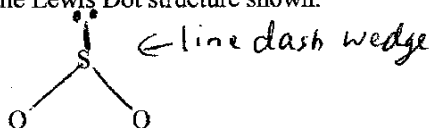
2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts)  
 (a) longest bond length (b) medium bond length (c) shortest bond length

C=C \_\_\_\_\_

C-C \_\_\_\_\_

C≡C \_\_\_\_\_

3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs \_\_\_\_\_ b. How many lone pairs \_\_\_\_\_  
 c. What is the geometry of the electron pairs? \_\_\_\_\_  
 d. What is the geometry of the molecule? \_\_\_\_\_  
 e. What is the hybridization \_\_\_\_\_ f. What is, are the bond angle \_\_\_\_\_

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol  $\delta$



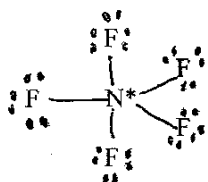
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name \_\_\_\_\_ Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*.

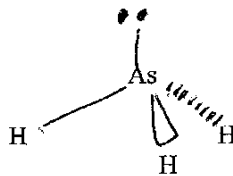
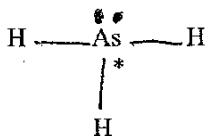
The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)



2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts)  
 (a) longest bond length (b) medium bond length (c) shortest bond length

C-C \_\_\_\_\_ C=C \_\_\_\_\_ C≡C \_\_\_\_\_

3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs \_\_\_\_\_ b. How many lone pairs \_\_\_\_\_  
 c. What is the geometry of the electron pairs? \_\_\_\_\_  
 d. What is the geometry of the molecule? \_\_\_\_\_  
 e. What is the hybridization \_\_\_\_\_ f. What is, are the bond angle \_\_\_\_\_

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol  $\delta$

H-----As

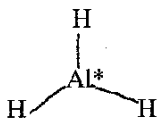
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name \_\_\_\_\_ Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*. *yellow*

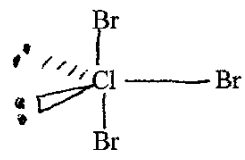
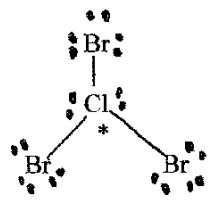
The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)



2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts) (a) Highest bond strength (b) medium bond strength (c) lowest bond strength

C-C \_\_\_\_\_ C≡C \_\_\_\_\_ C=C \_\_\_\_\_

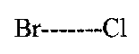
3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs \_\_\_\_\_
- b. How many lone pairs \_\_\_\_\_
- c. What is the geometry of the electron pairs? \_\_\_\_\_
- d. What is the geometry of the molecule? \_\_\_\_\_
- e. What is the hybridization \_\_\_\_\_
- f. What is, are the bond angle \_\_\_\_\_

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol δ



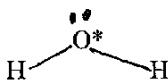
Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)

Name \_\_\_\_\_ Name \_\_\_\_\_  
 (print name) (sign name) Please show all work for full (& partial) credit

1. Is the following an allowed Lewis Dot Structure? Pay attention to the atom with the \*.

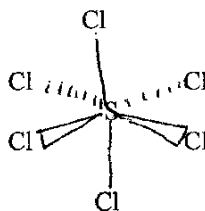
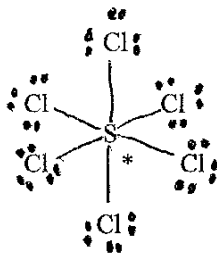
The Lewis Dot structure is an [(a) expanded octet (b) less than an octet structure (c) incorrect structure] (circle one) (5 pts)



2. Place the following bonds in order using the choices below (each letter can only be used one time) (3 pts)  
 (a) Highest bond strength (b) medium bond strength (c) lowest bond strength

C=C \_\_\_\_\_ C-C \_\_\_\_\_ C≡C \_\_\_\_\_

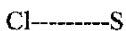
3. Complete the following VSEPR chart for the Lewis Dot structure shown.



Answer the following questions about the atom with the \* (2 pts each, 12 pts)

- a. How many electron pairs \_\_\_\_\_ b. How many lone pairs \_\_\_\_\_  
 c. What is the geometry of the electron pairs? \_\_\_\_\_  
 d. What is the geometry of the molecule? \_\_\_\_\_  
 e. What is the hybridization \_\_\_\_\_ f. What is, are the bond angle \_\_\_\_\_

Extra Credit (1 pt each, 3 pts) For the bond, show the polarity symbol as an arrow or with the symbol  $\delta$



Draw in the vector arrows for the molecule above in the line- wedge- dash drawing.

The above molecule as a whole is [(polar) or (nonpolar)] (circle one)