

Name: _____

Date: KEYLewis Structures Worksheet

Part 1 – For each formula, give the h, n, s, b, nbe (except for the octet exceptions), and then draw the correct Lewis Structure

Part 2 – For each Lewis Structure, give the correct molecular shape

Part 3 – Determine the molecular polarity

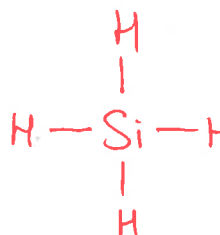
Set A:

1. HCl

h: 8
n: 10
s: 2
b: 1
nbe: 6

Shape: *linear*Polarity: *polar*5. SiH₄

h: 8
n: 16
s: 8
b: 4
nbe: 0



Shape:

tetrahedral
Polarity: *non-polar*

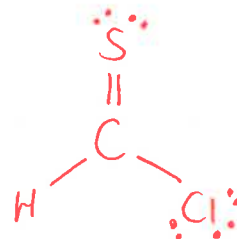
2. Cl₂

h: 14
n: 16
s: 2
b: 1
nbe: 12

Shape: *linear*Polarity: *non-polar*

6. SCHCl

h: 18
n: 26
s: 8
b: 4
nbe: 10

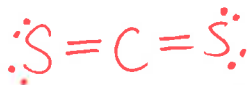


Shape:

trig planar
Polarity: *polar*

3. SCS

h: 16
n: 24
s: 8
b: 4
nbe: 8

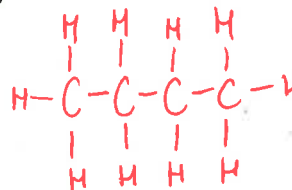


Shape:

linear
Polarity: *non-polar*

7. C₄H₁₀

h: 26
n: 52
s: 26
b: 13
nbe: 0



Shape:

tetrahedral
Polarity: *non-polar*

4. C₂H₂

h: 10
n: 20
s: 10
b: 5
nbe: 0



Shape:

linear
Polarity: *non-polar*

8. N₂

h: 10
n: 16
s: 6
b: 3
nbe: 4



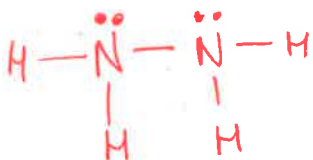
Shape:

linear
Polarity: *non-polar*

Set B:

9. N_2H_4

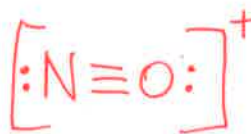
h: 14
n: 24
s: 10
b: 5
nbe: 4



Shape:
trig pyramidal
Polarity:
polar

15. NO^+

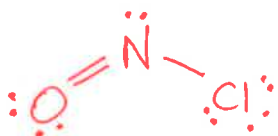
h: 10
n: 16
s: 6
b: 3
nbe: 4



Shape:
linear
Polarity:
polar

10. $ONCl$

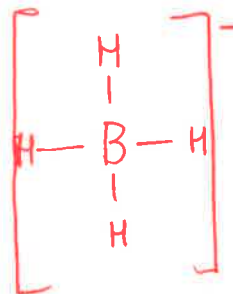
h: 18
n: 24
s: 6
b: 3
nbe: 12



Shape:
bent
Polarity:
polar

16. BH_4^-

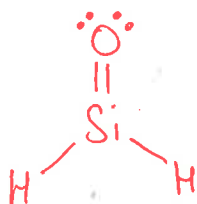
h: 8
n: 16
s: 8
b: 4
nbe: 0



Shape:
tetrahedral
Polarity:
polar (has a charge)

11. $OSiH_2$

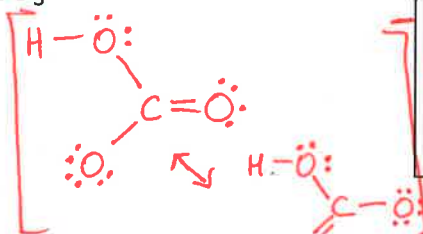
h: 12
n: 20
s: 8
b: 4
nbe: 4



Shape:
trig planar
Polarity:
polar

17. HCO_3^-

h: 24
n: 34
s: 10
b: 5
nbe: 14



Shape:
bent + trig planar
Polarity:
polar

12. HCN

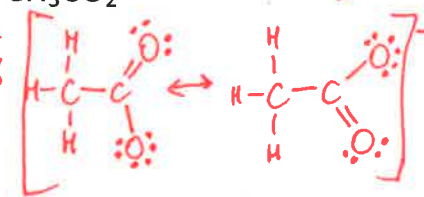
h: 10
n: 18
s: 8
b: 4
nbe: 2



Shape:
linear
Polarity:
polar

18. $CH_3CO_2^-$

h: 24
n: 38
s: 14
b: 7
nbe: 10



Shape:
tet + trig planar
Polarity:
polar

13. Cl_2O

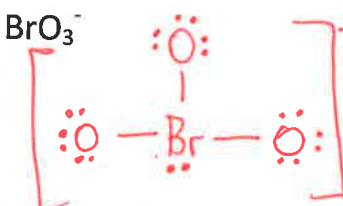
h: 20
n: 24
s: 4
b: 2
nbe: 16



Shape:
bent
Polarity:
polar

19. BrO_3^-

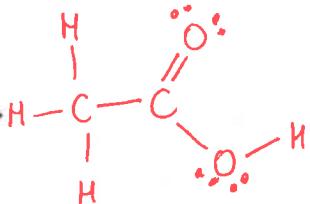
h: 26
n: 32
s: 6
b: 3
nbe: 20



Shape:
trig pyramidal
Polarity:
polar

14. CH_3COOH

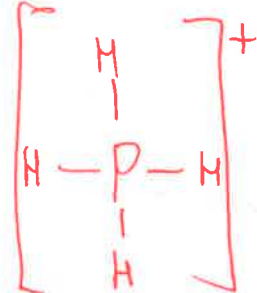
h: 24
n: 40
s: 16
b: 8
nbe: 8



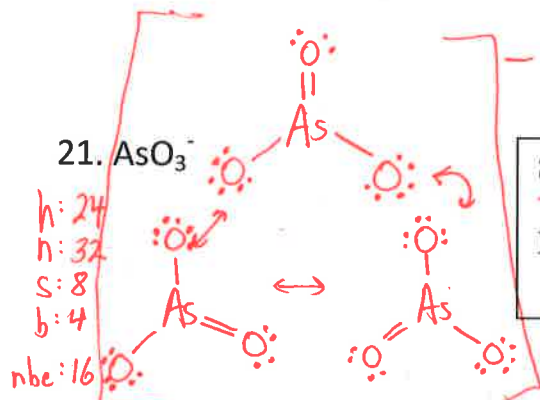
Shape:
tetra + trig planar + bent
Polarity:
polar

20. PH_4^+

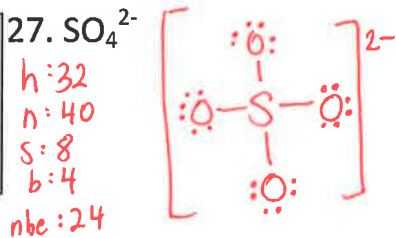
h: 8
n: 16
s: 8
b: 4
nbe: 0



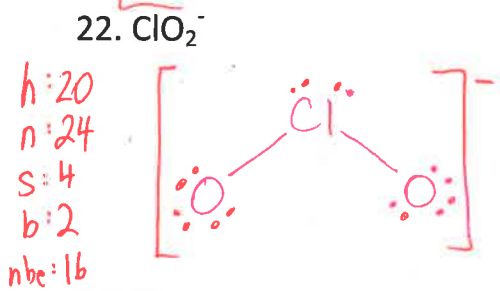
Shape:
tetra
Polarity:
polar (charged)



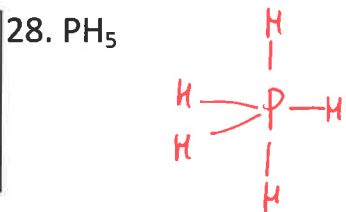
Shape:
trig planar
Polarity:
polar (charged)



Shape:
tetrahedral
Polarity:
polar (charged)

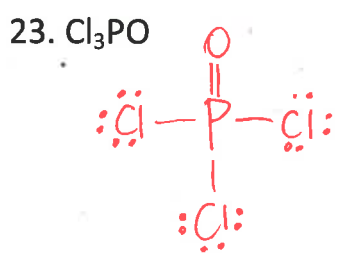


Shape:
bent
Polarity:
polar

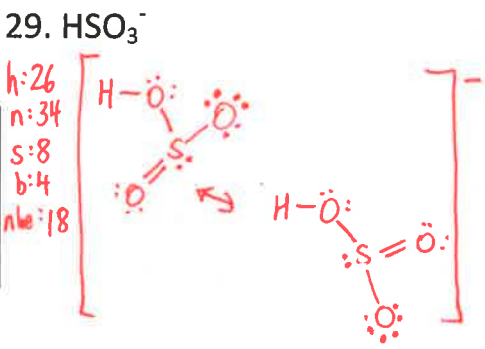


Shape:
trig bipyramidal
Polarity:
non polar

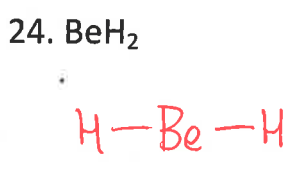
Set C:



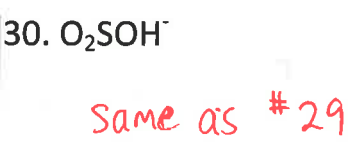
Shape:
tetrahedral
Polarity:
polar



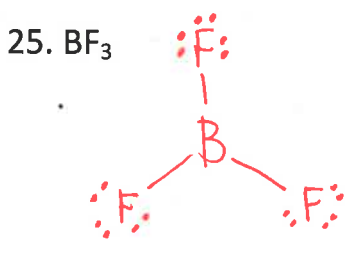
Shape:
bent + trig planar
Polarity:
polar



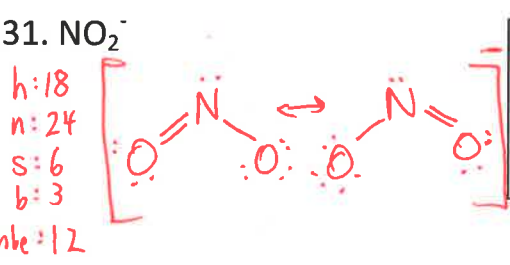
Shape:
linear
Polarity:
non-polar



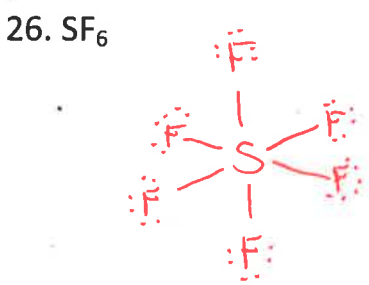
Shape:
Polarity:



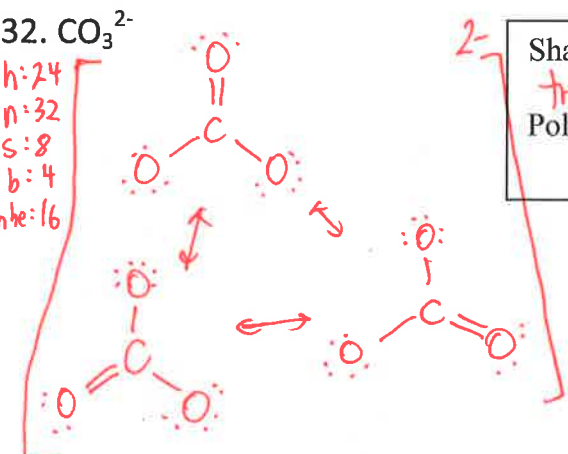
Shape:
trig planar
Polarity:
non-polar



Shape:
bent
Polarity:
polar



Shape:
octahedral
Polarity:
non-polar



Shape:
trig planar
Polarity:
polar