

# Lewis Dot Diagrams

## Molecules to Draw

First, draw Lewis Dot Diagrams for the following molecules. Count up the total valence electrons before you begin and make sure they all make it into the structure you draw. Be sure to show all lone pairs. Second, write names for the compounds and ions, if you have been taught how.

Your Name: SOLUTIONS

Date:

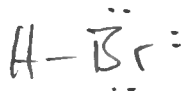
Class: 2022-02-02 W

### Easy

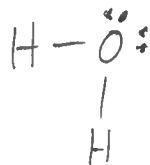
1. HCl



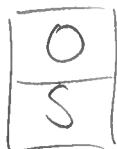
2. HBr



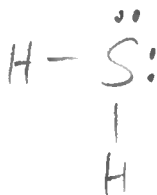
3. H<sub>2</sub>O



4. H<sub>2</sub>O<sub>2</sub>



5. H<sub>2</sub>S  $2(1) + 1(6) = 8e^-$

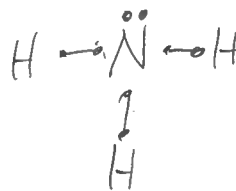


6. SCl<sub>2</sub>



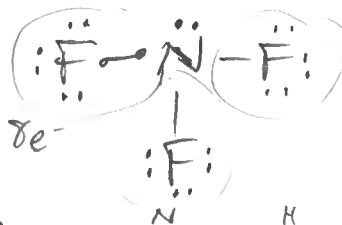
7. NH<sub>3</sub>

$1(5) + 3(1) = 8e^-$



8. NF<sub>3</sub>

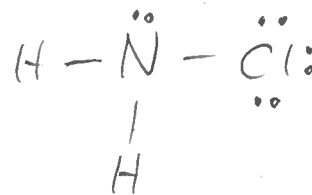
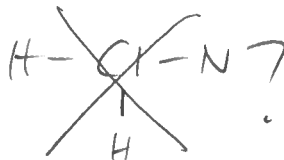
$1(5) + 3(7) = 26e^-$



$3 \times 8 = 24e^-$

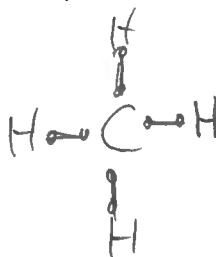
9. NH<sub>2</sub>Cl

$1(5) + 2(1) + 1(7) = 14e^-$



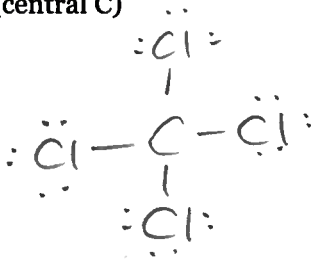
10. CH<sub>4</sub> (central C)

$1(4) + 4(1) = 8e^-$



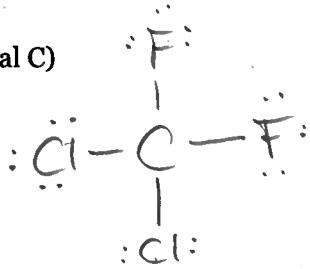
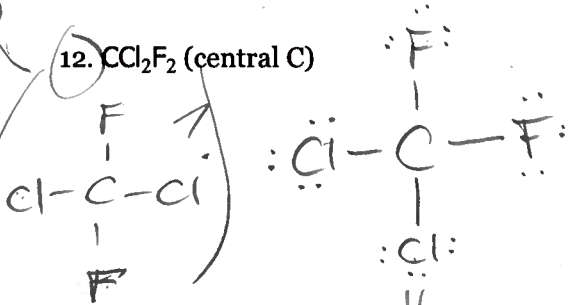
# Harder

11.  $\text{CCl}_4$  (central C)



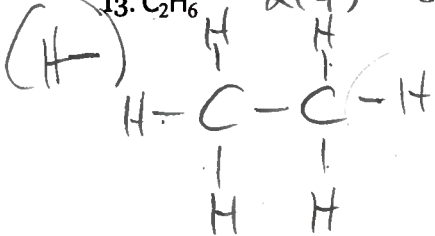
SEE  
NO.  
10

12.  $\text{CCl}_2\text{F}_2$  (central C)

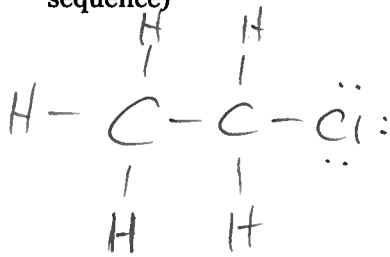


13.  $\text{C}_2\text{H}_6$

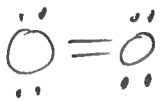
$$2(4) + 6(1) = 14e^-$$



14.  $\text{C}_2\text{H}_5\text{Cl}$  (carbon-carbon-chlorine sequence)

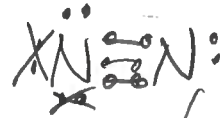


15.  $\text{O}_2$



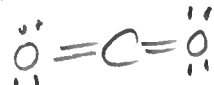
16.  $\text{N}_2$

$$2(5) = 10e^-$$

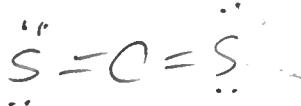


17.  $\text{CO}_2$

$$1(4) + 2(6) = 16e^-$$

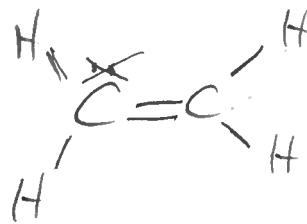


18.  $\text{CS}_2$



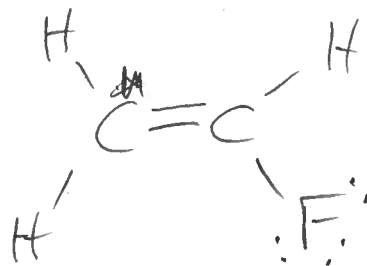
19.  $\text{C}_2\text{H}_4$

$$12e^-$$



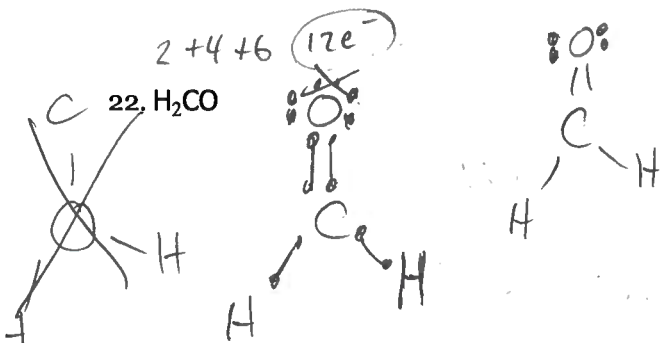
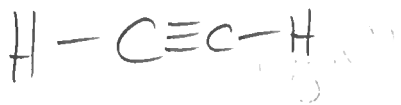
20.  $\text{C}_2\text{H}_3\text{F}$

$$18e^-$$



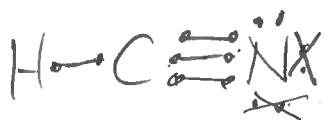
Some molecules on this page involve violations of the octet rule. Be aware!

21.  $C_2H_2$

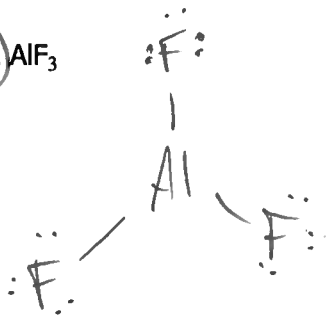


1 + 4 + 5 = 10e<sup>-</sup>

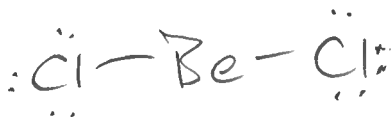
23. HCN



24.  $AlF_3$



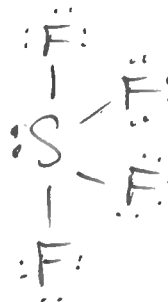
25.  $BeCl_2$



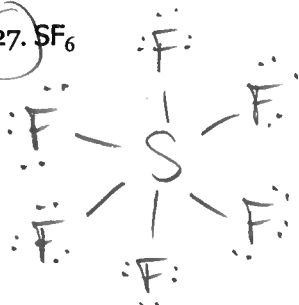
26.  $SF_4$

$$S + 4(F) = 6 + 4(7)$$

34e<sup>-</sup>

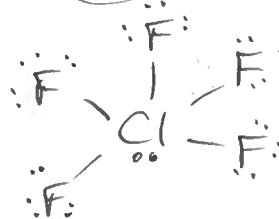


27.  $SF_6$



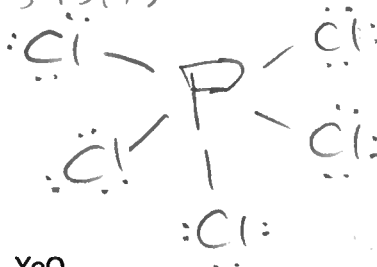
28.  $ClF_5$

$$6 \cdot 7 = 42e^-$$



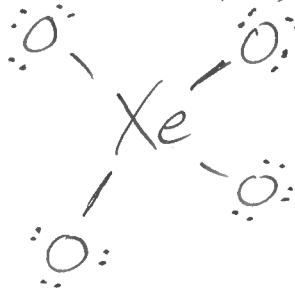
29.  $PCl_5$

$$5 + 5(7) = 40$$



30.  $XeO_4$

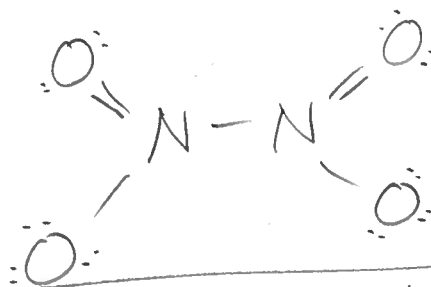
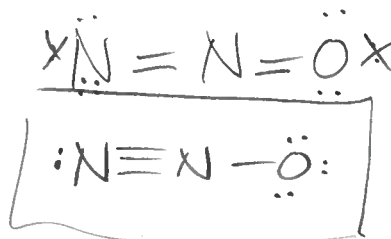
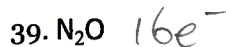
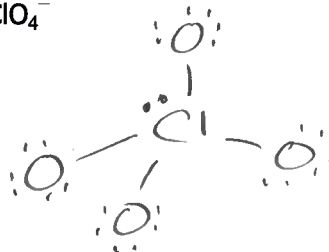
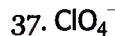
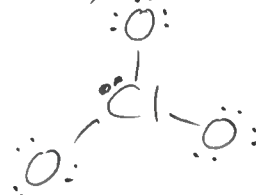
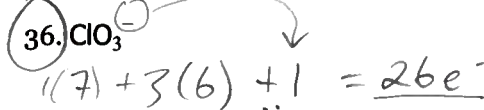
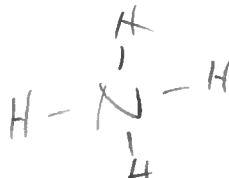
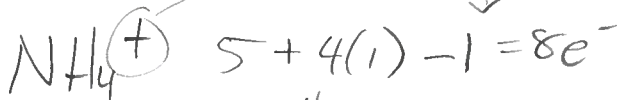
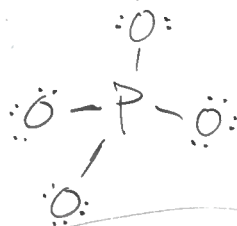
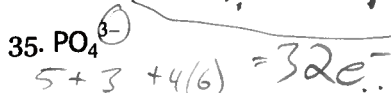
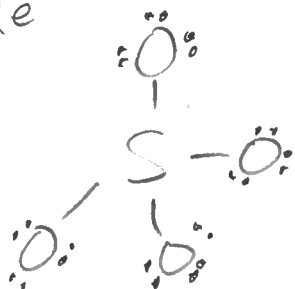
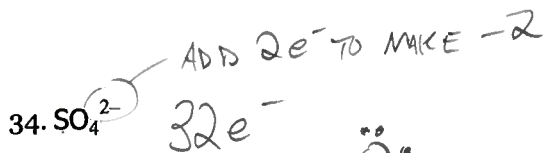
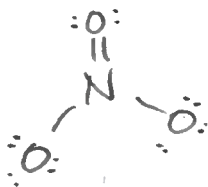
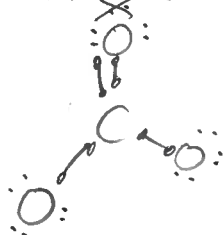
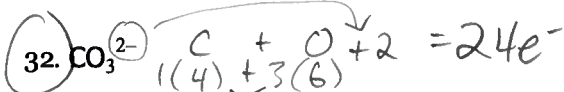
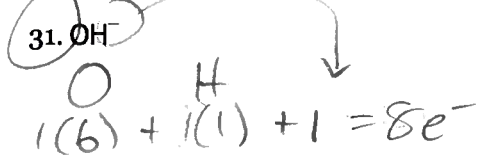
$$8 + 4(6) = 32e^-$$



IONS: ADD  $e^-$ s FOR (-) ||| SUBTRACT  $e^-$ s FOR (+)

All of the molecules on this page have a formal charge on one or more atoms. Clearly identify which ones and label each atom that has a formal charge.

Some molecules on this page have several resonance forms. Draw all reasonable resonance forms if you have been taught how to do this. If you don't know what resonance forms are, then ignore this instruction.



FINISH FOR Th 2/3