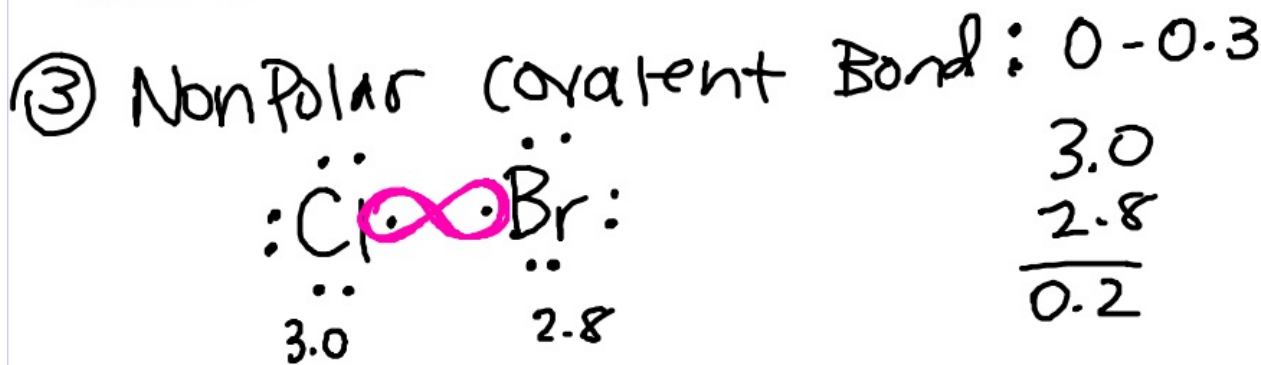
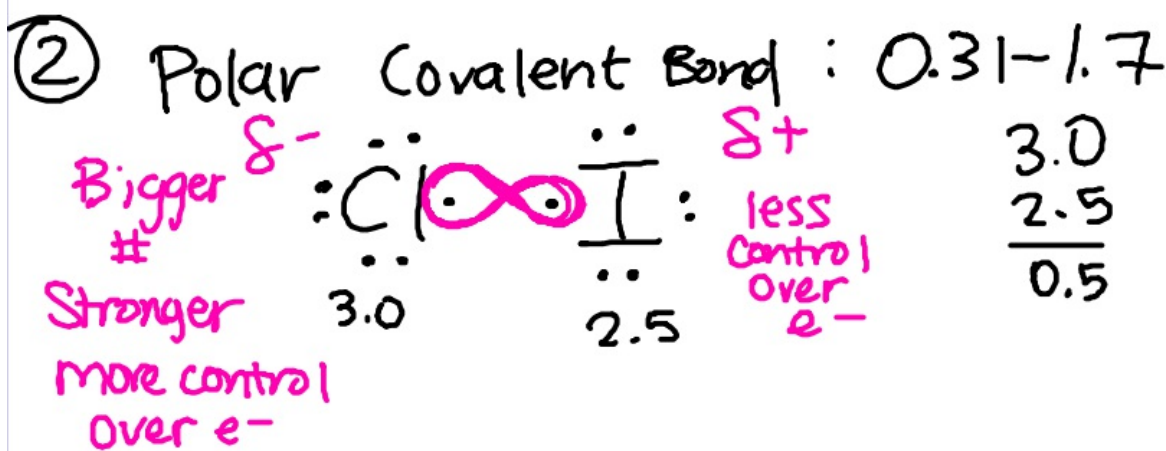
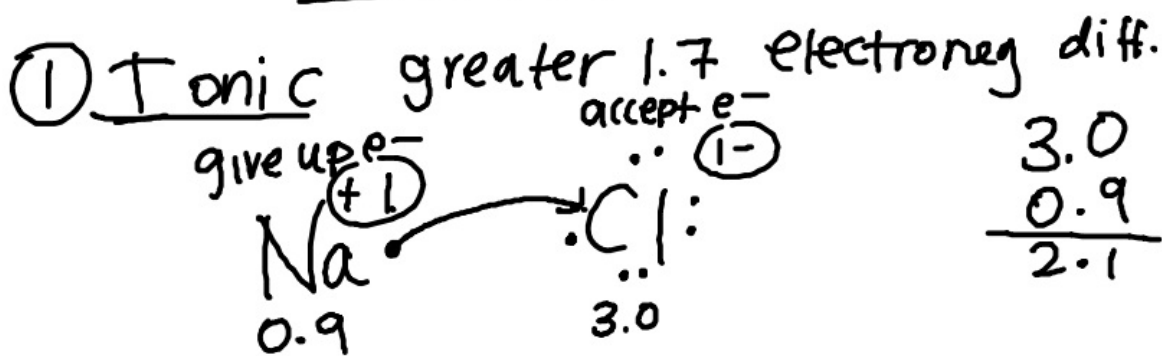


3 types of Bonds

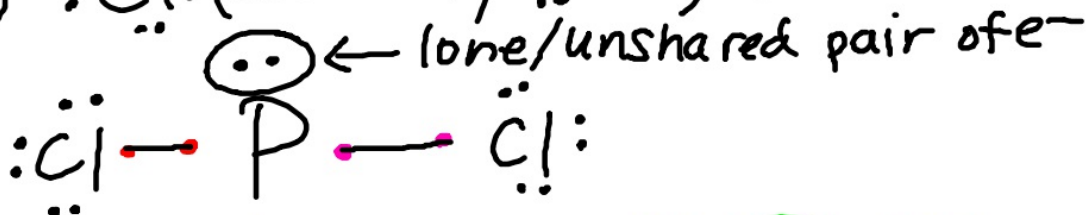
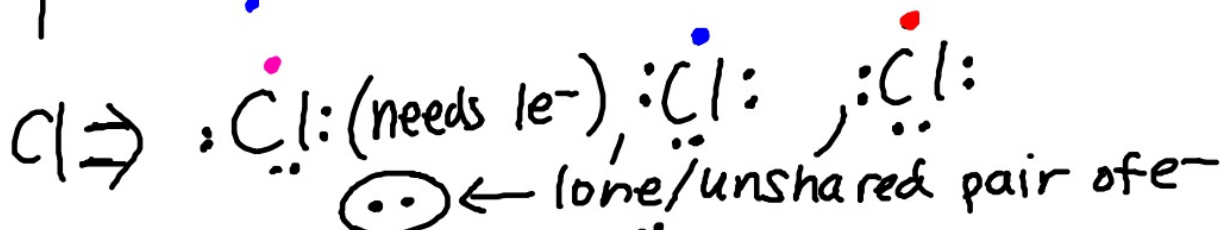
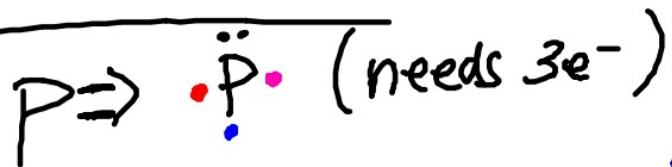


- Sharing e^- equally
- no sign/charges

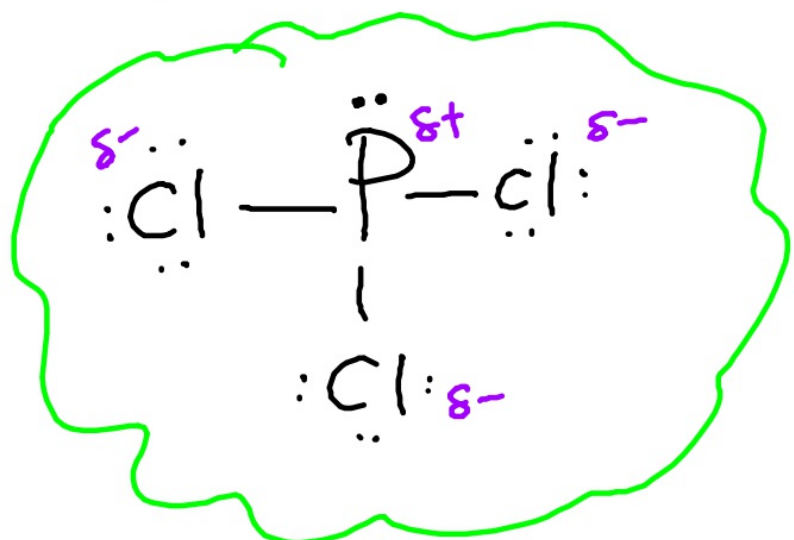
Bonding Covalently

- ① all atoms want 8 valence e^-
*except: Hydrogen 2 valence e^-
Boron 6 valence e^-
- ② the center atom needs the most e^-
 - Hydrogen & group 17 can't be in the center
- ③ put it together like a puzzle

ex. 1 PCl_3



line \rightarrow
= $2e^-$
shared



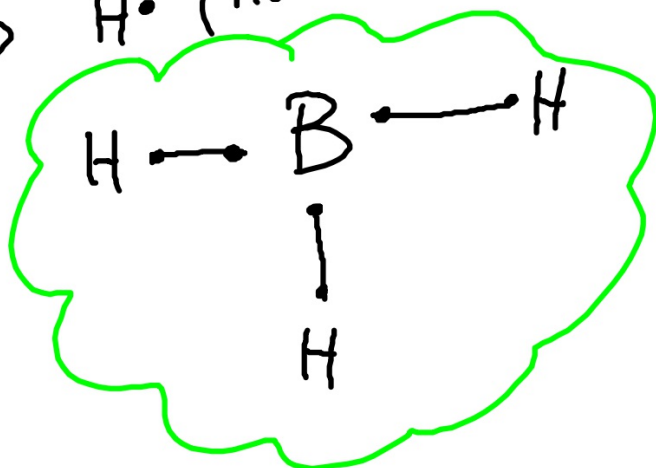
$\delta^- 3.0 (\text{Cl})$
 $\delta^+ 2.1 (\text{P})$

 0.9 Polar

ex. 2 BH_3

$\text{B} \Rightarrow \cdot \text{B} \cdot$ (needs $3e^-$)

$\text{H} \Rightarrow \text{H} \cdot$ (needs $1e^-$)



* Boron only *
needs $6e^-$

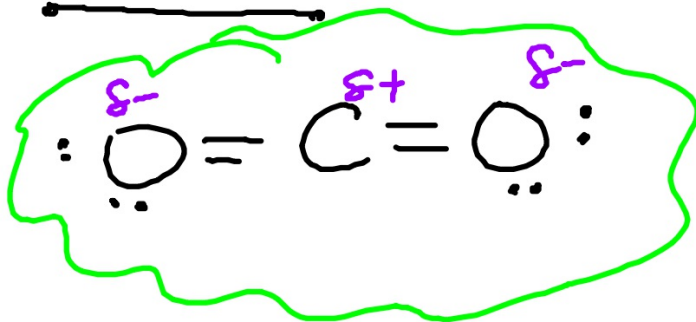
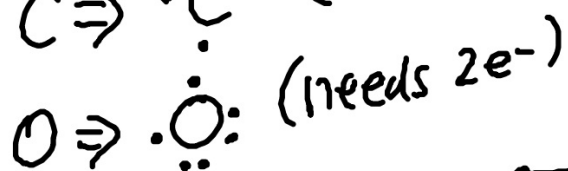
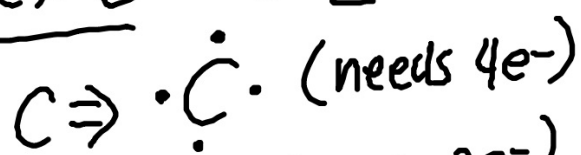
2.1 (H)

2.0 (B)

0.1

nonpolar
Bond

ex. 3 CO₂

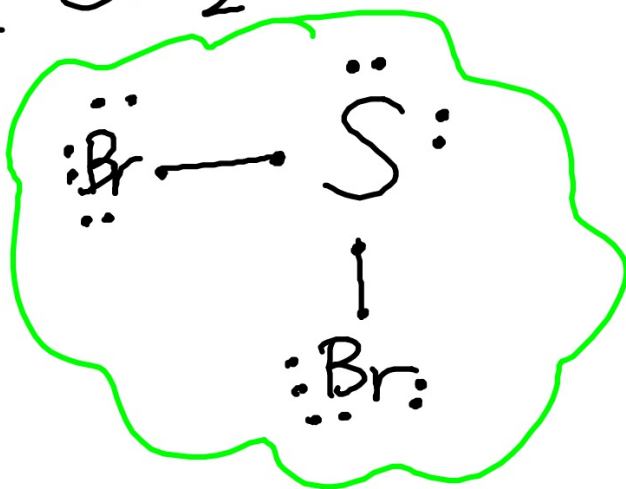


(O) 3.5 δ^-

(C) 2.5 δ^+

1.0
polar

ex. 4 SBr₂



2.8
2.5

0.3
Non Polar
Bond