

# AP Chemistry

## Thou Shalt Not Forget Questions

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### **Bonding & Molecular Geometry**

1. What is the total # of covalent bonds carbon has to make when drawing a Lewis (e- dot) structure?
2. What is the bond angle in  $\text{BF}_3$  /  $\text{H}_2\text{O}$  /  $\text{NH}_3$  /  $\text{CO}_2$  ?
3. What is the hybrid orbital used in  $\text{BF}_3$  /  $\text{H}_2\text{O}$  /  $\text{NH}_3$  /  $\text{CO}_2$  ?
4. a) Are asymmetrical/symmetrical molecules polar or nonpolar?  
b) Why are asymmetrical/symmetrical molecules polar/nonpolar?
5. How many sigma and pi bonds are there in a triple bond?  
b) Count the # of sigma and pi bonds in this molecule: (draw an example on the white board)
6. a) What term do we use for the energy to break the ionic bond in a compound?  
b) What 2 properties affect the lattice energy?  
c) Which ionic compound would have the most lattice energy? large/small ion charges; large/small ion radii
7. Calculate the formal charges in this compound: (draw an example on the white board)
8. When drawing a Lewis (electron dot) Structure, after connecting the atoms with single bonds, if you notice that you have too few remaining electrons to give every atom an octet, that's an indication that you are going to have to do what?