

Name HONORS - Bond and Molecular Polarity Review

Compound	EN	Name the Compound	Individual Bonds NPC, PC or I	Electron Dot Structure Include All Valence Electrons
SiBr ₄	Si = 1.8 Br = 2.8			
H ₂ S	H = 2.1 S = 2.5			
NBr ₃	N = 3.0 Br = 2.8			
PI ₃	P = 2.1 I = 2.5			
CO ₂	C = 2.5 O = 3.5			
CH ₄	C = 2.5 H = 2.1			
O ₂	O = 3.5			

1. Define Covalent Bond:

2. What does "Polar" mean?

3. Explain the difference between a *polar covalent BOND* and a *nonpolar covalent BOND*

4. What is the difference between a polar **bond** and a polar **molecule**?

5. Why is it possible to have Polar Bonds, but not a Polar Molecule?	
6. In a polar covalent bond, where do the electrons move?	
7. Based on EN values, which elements, when combined, will be the most ionic ? F = 4.0, O = 3.5, C = 2.5, Mg = 1.2	
8. In an Electron Dot Diagram, the central atom is the atom with the a. Fewest e-, b. Lowest EN, c. Highest Atomic #, d. Highest mass, e. most radioactive, f. Needs the most e-	
9. Which substance has <u>3</u> single covalent bonds? CO ₂ N ₂ F ₂ O ₂ NH ₃	10. All the bonds below are polar, but which molecules are polar? CH ₄ BF ₃ H ₂ O CO ₂ HF
11. Which substances are NOT Covalent? H ₂ O, NaCl, SiF ₄ , NBr ₃ , MgO	12. Covalent Substances are primarily between (type of elements):
13. Which substance(s) have one double bond? CO ₂ N ₂ F ₂ O ₂ NH ₃	14. Which substance(s) have a triple bond? CO ₂ N ₂ F ₂ O ₂ NH ₃