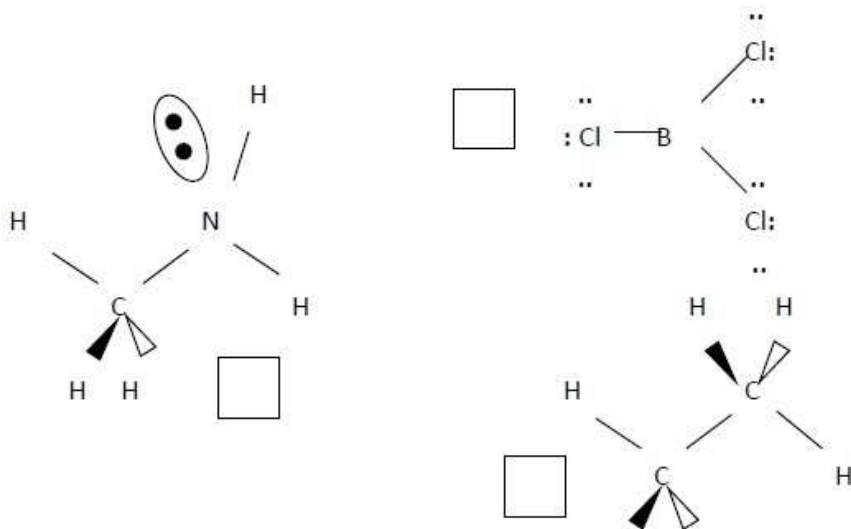


3. Categorize each molecule below by writing P (polar) or N (nonpolar) in the boxes provided.

Examples for solving problems



Polar or Nonpolar?

This exercise asks you to look at a molecular formula and decide if it's polar or nonpolar. You should first ask, "Are there any **FONCI** "phone call" atoms? If so, the next question should be, "Is the molecule totally symmetrical?" A molecule is polar if it has FONCI atoms and is asymmetric. A molecule is nonpolar if it is symmetrical, despite having some **FONCI** atoms present. I've also told you that pure hydrocarbons are nonpolar. I've included three molecules here. **The molecular geometry of BCl_3 is trigonal planar with symmetric charge distribution around the central atom. Therefore this molecule is nonpolar.** The ethane is all "black and white", an indication of its pure hydrocarbon nature. It's nonpolar.