Which of the following diatomic molecules is the most polar:

1. Br_2
2. HCl
3. H_2
4. HBr

Correct Answer: **2.**

Comments to the instructor: Br_2 and H_2 are nonpolar molecules; the electronegativity difference between H and Cl is greater than the electronegativity difference between H and Br.

Which of the following molecules is nonpolar:

1. CH_3Cl
2. CO
3. H_2O
4. CH_4

Correct Answer: **4.**

Comments to the instructor: Have students draw Lewis structures, first. The symmetry of CH_4 makes it the only nonpolar molecule among the choices given.

Of the following species: NF_3, BF_3, CO_2, CH_3OH, which pair is polar:

1. NF_3, BF_3
2. BF_3, CO_2
3. NF_3, CH_3OH
4. CO_2, CH_3OH

Correct Answer: **3.**

Comments to the instructor: Have students draw Lewis structures, first. NF_3 is polar, BF_3 is nonpolar. Both BF_3 and CO_2 are nonpolar. Both NF_3 and CH_3OH are polar. CO_2 is nonpolar, and CH_3OH is polar.