

K64 Ver A

Name: _____

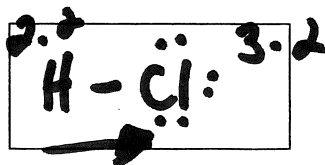
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Quiz #7: Bond and Molecule Polarity

1. State, in terms of electrons, why a bond is classified as polar.

Unequal sharing of electrons

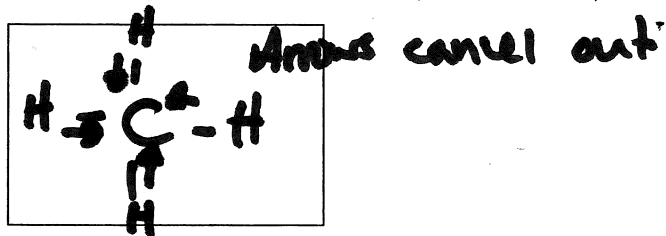
2. Draw the Lewis Diagram of an HCl molecule below and show why the bond between the H and Cl is polar. Your diagram must include electronegativity values.



3. State, in terms of charge distribution, why a molecule is classified as polar.

Asymmetric distribution of charge

4. Draw the Lewis Diagram of CH₄ below and show why the molecule is nonpolar.



5. Given the following substances: CCl₄, CH₃Cl, CO₂, NH₃, N₂, CS₂, H₂O, NaCl and ICl

- a. Give the formula for all substances that contain **polar bonds**: CCl₄, CH₃Cl, CO₂, NH₃, H₂O, ICl
- b. Give the formula for all substances that contain **nonpolar bonds**: N₂, CS₂
- c. Give the formula for all substances that would be classified as **polar molecules**.
CH₃Cl, NH₃, H₂O, ICl
- d. Give the formula for all substances that would be classified as **nonpolar molecules**.
CCl₄, CO₂, N₂, CS₂

K64 Ver B

Name: _____

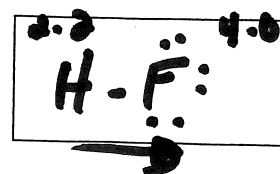
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Quiz #7: Bond and Molecule Polarity

1. State, in terms of electrons, why a bond is classified as polar.

unequal sharing of electrons

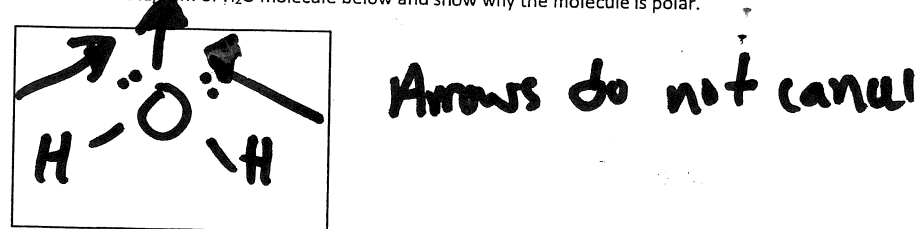
2. Draw the Lewis Diagram of an HF molecule below and show why the bond between the H and F is polar. Your diagram must include electronegativity values.



3. State, in terms of charge distribution, why a molecule is classified as polar.

Asymmetric Distribution of charge

4. Draw the Lewis Diagram of H₂O molecule below and show why the molecule is polar.



5. Given the following substances: CCl₄, CH₃Br, CO₂, NH₃, O₂, CS₂, H₂O, NaCl and ICl

- a. Give the formula for all substances that contain **polar bonds**: CH₃Br, CCl₄, CO₂, NH₃, H₂O, ICl
- b. Give the formula for all substances that contain **nonpolar bonds**: O₂, CS₂
- c. Give the formula for all substances that would be classified as **polar molecules**.
CH₃Br, NH₃, H₂O, ICl
- d. Give the formula for all substances that would be classified as **nonpolar molecules**.
CCl₄, CO₂, O₂, CS₂