WKS – Chem H
Polarity

NAME _____
Period _____ **Date** _____

Bond Polarity

1. What is electronegativity and how is it used to determine bond polarity?

2. What is a non-polar covalent bond and what ΔEN indicates this? Give two examples.

3. What is a polar covalent bond and what ΔEN indicates this? Give two examples.

4. What electronegativity difference (ΔEN) indicates an ionic bond?

5. For the following bonds, use the electronegativity table to indicate ΔEN for each bond (SHOW WORK!) and indicate its polarity. **If the bond is polar covalent, indicate the presence of the dipole using either the arrow or the δ+/δ– symbols. If it is ionic, put in the charges.** (2 pts each)

(a) N—F ΔEN= _____
Polarity: _____

(b) N—C ΔEN= _____
Polarity: _____

(c) O—I ΔEN= _____
Polarity: _____

(d) P—H ΔEN= _____
Polarity: _____

(e) K—F ΔEN= _____
Polarity: _____

(f) O—Si ΔEN= _____
Polarity: _____

(g) Cl—N ΔEN= _____
Polarity: _____

(h) O—Mg ΔEN= _____
Polarity: _____

Molecular Polarity

6. What two properties are needed for overall molecular polarity?

7. How is molecular polarity determined?

8. Go back to the VSEPR worksheet and label all polar bonds with either the dipole arrow or the δ+/δ– symbols for, then indicate whether the molecule is polar or nonpolar. With N_2H_2 determine the polarity for both configurations.