$\lvert\Delta\chi\rvert$	Bond Type
$\leq .40$	non-polar covalent
$.40 - 2.0$	polar covalent
≥ 2.0	ionic

$\lvert\Delta\chi\rvert$ ← absolute value of difference between electronegativities

Name STURMAN KEY Date

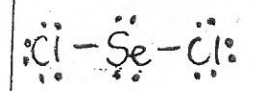
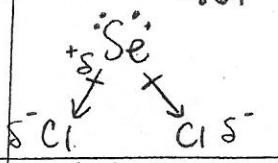
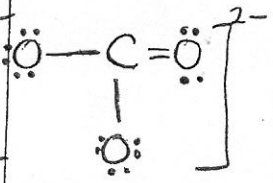
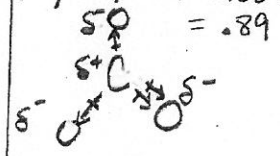
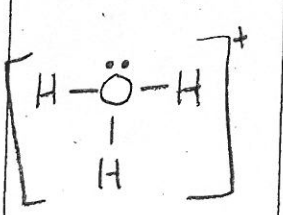
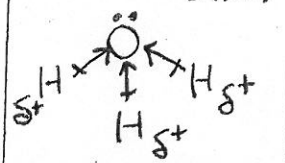
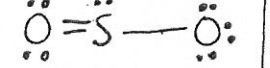
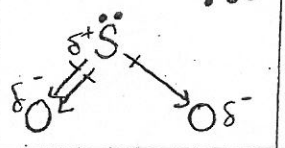
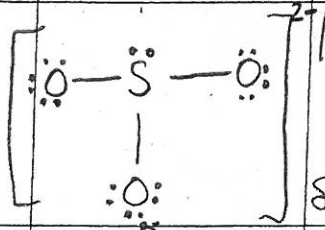
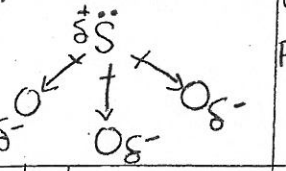
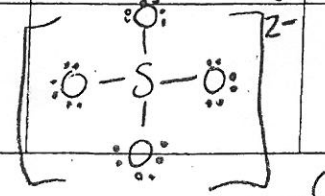
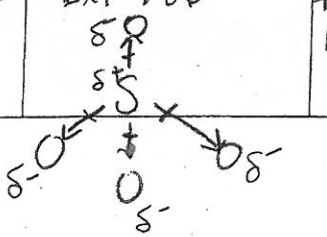
MOLECULAR GEOMETRY

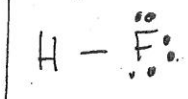
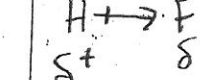
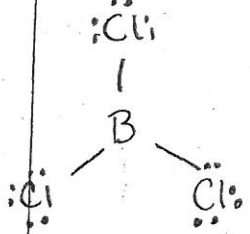
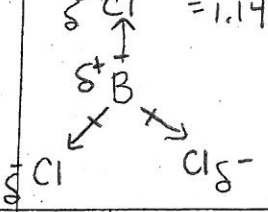
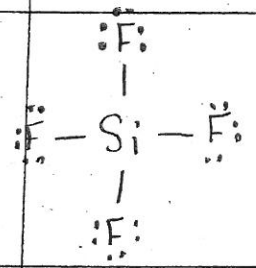
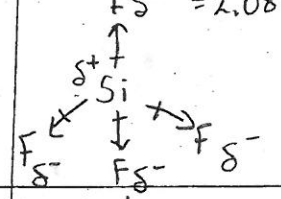
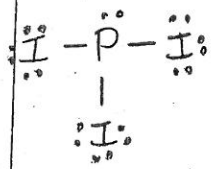
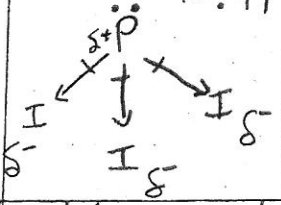
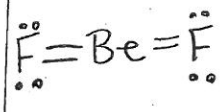
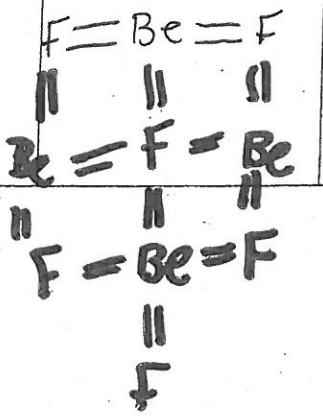
These columns!

δ^- (delta negative) means partial neg charge

Check this before moving on to the next column.

Show $\Delta\chi$ + polar bonds + partial charges

Compound Write formula as well.	e⁻ structure	Molecular Geometry	Shape & Angle	Hybridization	Polar, non-polar ← molecule. not bonds.
Selenium Dichloride $SeCl_2$		$\lvert\Delta\chi\rvert = \lvert 2.55 - 3.16\rvert = .61$ 	tetra bent 105°	sp^3	polar
Carbonate CO_3^{2-}		$\lvert\Delta\chi\rvert = \lvert 3.44 - 2.55\rvert = .89$ 	trigonal planar 120°	sp^2	non-polar
Hydronium H_3O^+		$\lvert\Delta\chi\rvert = \lvert 3.44 - 2.20\rvert = 1.24$ 	trigonal pyramidal 107°	sp^3	Polar
Sulfur dioxide SO_2		$\lvert\Delta\chi\rvert = \lvert 3.44 - 2.58\rvert = .86$ 	trigonal bent <120°	sp^2	polar
Sulfite SO_3^{2-}		$\lvert\Delta\chi\rvert = .86$ 	trigonal pyramidal 107°	sp^3	Polar
Sulfate SO_4^{2-}		$\lvert\Delta\chi\rvert = .86$ 	tetra-hedral	sp^3	non-polar

Compound	e⁻ structure	Molecular Geometry	Shape & Angle	Hybridization	Polar, non-polar
Hydrogen Fluoride HF		$\lvert\Delta\chi\rvert = \lvert 2.20 - 3.98\rvert = 1.78$ 	linear 180°	sp	polar
Boron Trichloride BCl_3 * exception to octet rule		$\lvert\Delta\chi\rvert = \lvert 2.04 - 3.16\rvert = 1.14$ 	trigonal planar	sp^2	non-polar
Silicon Tetra-Fluoride SiF_4 ★ considered very polar, not necessarily ionic		$\lvert\Delta\chi\rvert = \lvert 1.90 - 3.98\rvert = 2.08$ 	tetrahedral	sp^3	non-polar
Phosphorus Triiodide PI_3		$\lvert\Delta\chi\rvert = \lvert 2.19 - 2.66\rvert = .47$ 	trigonal pyramidal	sp^3	polar
Beryllium Difluoride BeF_2 ionic		$\lvert\Delta\chi\rvert = \lvert 1.57 - 3.98\rvert = 2.41$ 	Ionic, so doesn't apply.		