



- the electronegativity of hydrogen is between B and C, and identical to P.
- it is also between As and Se and identical to Te.

21) * look at the number of protons + electrons
 atom < anion
 cation < atom

23) later

25) later

- a) $C < N < O$
- b) $Se < S < Cl$
- c) $Sn < Ge < Si$
- d) $Tl < Ge < S$

- a) $Ge - F$
- b) $P - Cl$
- c) $Si - F$
- d) $Ti - Cl$

- a) $C (2.5) < N (3.0) < O (3.5)$
- b) $Se (2.4) < S (2.5) < Cl (3.0)$
- c) $Si = Ge = Sn (1.8)$
- d) $Tl (1.8) = Ge (1.8) < S (2.5)$

a) $Si - F$ and $Ge - F$ (the same)
 b) $P - Cl$ (the same) c) $Si - F$ (the same) d) $Ti - Cl$ (same)

33) a) correct



c) correct

d) $\text{Br} - \text{Br}$ (nonpolar covalent)



35) a) ionic

b) covalent

c) polar covalent

d) ionic

e) polar covalent

f) covalent

37) $\text{H} = \text{P} < \text{C} < \text{N} < \text{O} < \text{F}$

