

1. Use a table of electronegativities to characterize the bond between the following pairs of atoms as principally ionic or covalent.

- a) S and S
- b) Mg and Cl
- c) O and Cl

[1] _____

2. Three elements have electron configurations of

- a) $1s^2 2s^2$
- b) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$
- c) $1s^2 2s^2 2p^6 3s^2$

Arrange these atoms in order of increasing electronegativity.

[2] _____

3. Arrange the following atoms in order of decreasing electronegativity.

O, B, Na

[3] _____

4. Use a periodic table to determine if the following pairs of atoms produce ionic or covalent bonds.

Na, I and Ca, I

[4] _____

5. Use a periodic table to determine if the following pairs of atoms produce ionic or covalent bonds.

Mg,H and H,Br

[5] _____

6. The following pairs of atoms form covalent bonds. Which pair contains the most polar bond?

Si-N H-O C-O

[6] _____

7. How many single, double, and triple covalent bonds are present in a molecule of SCl_2 ?

[7] _____

Key Sheet

[1] a) covalent
b) covalent
c) covalent

[2] b), c), a)

[3] O, B, Na

[4] ionic and ionic

[5] covalent and covalent

[6] H-O

[7] 2 single, 0 double, and 0 triple bonds
