Bonding Unit Review  
 Name:

1. What is a covalent bond? What is an ionic bond?
2. Why do atoms bond together to form molecules?
3. Define electronegativity.
4. What are the three types of intramolecular bonds? How do they differ?
5. Identify the kind of intramolecular bonding contained in each of the following:

HI, F2, MgO, O2, AsH3, PCl3

1. What are the three types of intermolecular bonding from strongest to weakest.
2. Identify the kind of intermolecular bonding in each:

HI, F2, MgO, O2, AsH3, PCl3, H2O

1. What is a double bond?
2. How does the distance between atoms change if a single, double or triple bond is present? What bonds are the strongest?
3. What is the general trend in electronegativity as you go from left to right across the periods and bottom to top of the periodic table.
4. By looking only at the periodic table, arrange the following sets in order of increasing electronegativity:
5. O, P, S b) Mg, Al, Si, c) C, Si, N
6. Arrange the bonds in each of the following sets in order of increasing polarity:

a) H---F, O---F, B---F b) N---N, N---P, N---O

1. Draw the Lewis dot diagram for selenium with the correct number of valence electrons.
2. How many electrons must sulfur gain in order to get a stable octet?
3. Draw Lewis diagrams for each of the following.
4. BrO3-
5. CH3OH
6. H2SO4
7. CH3COO-
8. OPCl3
9. Draw the resonance structures for
10. C2O4 2-
11. HNO3
12. What would be the shape of a molecule of
13. CO2
14. H2S
15. NH3
16. Would a molecule of CH3Br be polar or nonpolar? What about the polarity of the molecules in #17?
17. Explain why water would have a higher boiling point than H2S.
18. Which would have the shorter bond length, H and S in H2S or C and N in HCN?