Chapter 6 Review

1. Study all objectives and vocabulary for this chapter.
2. What is a chemical bond?
3. Why do most atoms form chemical bonds?
4. Fill in the chart with distinct properties of ionic, covalent, and metallic bonding

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| Ionic | Covalent | Metallic |
|  |  |  |

1. Classify the following bonds as nonpolar covalent, polar covalent, or ionic based on their differences in electronegativity.
   1. H-H
   2. H-O
   3. Br-F
   4. H-N
   5. Cl-Cl
   6. N-I
   7. Br-Si
2. What is the octet rule?
3. Draw electron dot notation for the following
   1. K
   2. N
   3. O
   4. F
   5. Ar
   6. Na+
   7. O2-
   8. C
4. How are ionic compounds different than molecules? Draw an example of each.
5. Why are metals good conductors of heat and electricity?
6. What determines the polarity of a molecule?
7. Draw the Lewis (electron dot) structures for the following molecules. If the molecule has partial charges, polarity arrows, or unshared pairs, draw them in. In the next column, identify the shape of the molecule and indicate whether the molecule is polar or nonpolar based on your drawing, shape, and polarity of bonds.

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| Molecule | Lewis Structure  Include unshared pairs, polar arrows, partial charges | Shape  Polar/nonpolar |
| O2 |  |  |
| CF4 |  |  |
| CO2 |  |  |
| NH3 |  |  |
| SCl2 |  |  |
| N2 |  |  |
| CH2O |  |  |
| SO42- |  |  |