Atomic Structure Review

1. Name the type of electromagnetic radiation that has the highest

   a) wavelength.

   b) frequency.

   c) energy.

2. Name the type of visible light that has the lowest

   a) wavelength.

   b) frequency.

   c) energy.

3. Put the following types of electromagnetic radiation in order from highest frequency to lowest frequency.

   Yellow Infrared Blue Radio Ultraviolet Microwave

4. Put the following types of electromagnetic radiation in order from lowest energy to highest energy.

   Green X-rays Gamma Rays Radio

5. How many electrons can fit in each of the following orbitals?

   a) 1*s*

   b) 2*p*

   c) 3*d*

   d) 4*f*

6. Draw the energy level diagram for each of the following elements, showing all appropriate energy levels and appropriate electron spins.

   a) *Sc*

   b) *N*

   c) *Cu*

7. Define

   a) ionization energy.

   b) electronegativity.

8. Explain what happens to each of the following as you move from left to right across a period.
    a) Atomic Radius
    b) Ionic Radius
    c) Ionization Energy
    d) Electronegativity
9. Explain what happens to each of the following as you move down a group.
    a) Atomic Radius
    b) Ionic Radius
    c) Ionization Energy
    d) Electronegativity