**Bohr, Flame Test, Quantum Mechanics Review**

1. Sketch the Bohr model of the atom and label all of the parts.
2. How is the variable “n” related to the energy of electrons in the Bohr atom?
3. How is light given off by an atom when energy is added to it?
4. What is the difference between a continuous spectrum and a line spectrum?
5. Why do all elements give off different line spectra?
6. Could we see line spectra when we did the flame test lab? Why or why not.
7. List three ways in which the Bohr model differs from the quantum model.
8. What are the four quantum numbers and what do they represent?
9. Which model of the atom has each of the following characteristics?
   1. Electrons travel around the atom in circular paths called orbitals.
   2. Electrons are waves
   3. The energy of electrons is determined mathematically
10. Write the long and short versions of the electron configuration for osmium, as well as its orbital filling diagram (6 pt)