1. If $\psi$ is a wave function of an electron in an atom, what is the physical interpretation of $\psi^2$?

2. What is the Heisenberg uncertainty principle? How does it apply to the structure of an atom?

3. (a) What are the names and letter designations of each of the 3 quantum numbers needed to designate an orbital? What do each of these quantum numbers tell you about the orbital?

(b) What is meant by the term subshell?

(c) Which quantum numbers are needed to define a subshell?

5. Draw the following:
   (a) a 1s orbital.

(b) a 2px orbital next to a 2py orbital. (What is different about these two orbitals?)

(c) a 2s orbital next to a 3s orbital. (What is different about these two orbitals?)