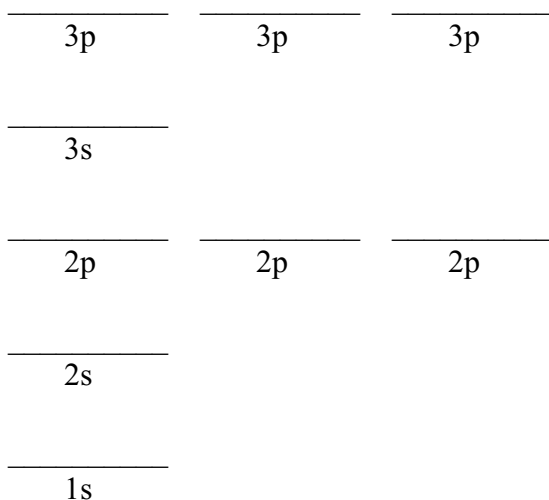


Fill in this chart about the quantum numbers:

Order	Name	Symbol	What does it indicate about an electron?	All possible values

(a) Draw the orbital diagram of carbon: # of electrons = _____



- (b) Circle an energy level in the orbital diagram above.
- (c) Draw a box around a sublevel in the orbital diagram above.
- (d) Draw a triangle around an orbital in the orbital diagram above.
- (e) Put a star next to an electron in the orbital diagram above.

Order of Filling and Notation

The sublevels do not fill up in numerical order, and the pattern of filling is shown on the right side of the approximate relative energy levels diagram (Figure 9). In the first instance of failure to follow numerical order, the 4s fills before the 3d. (Study Figure 9 carefully before going on.)

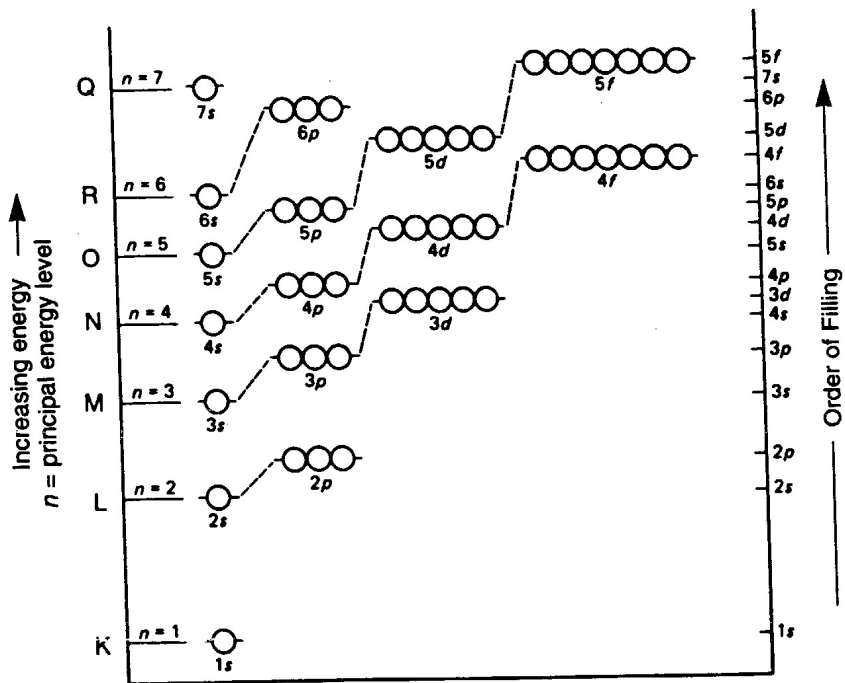


FIGURE 9. Approximate Relative Energy Levels of Subshells

