

1. Write the complete electronic configuration ($1s^2 2s^2 \dots$) and the orbital box diagram for the Cl atom.
2. Write the electronic configuration, using the abbreviated noble gas form, for the following atoms. Note: Try these first using the building-up rules, then look up the configurations on Table 8.5, page 237 in the text. Ag and La are exceptions to the building up rules. Note that W has a completed 4f subshell which doesn't show up on Table 8.5 because it is considered part of a pseudo-noble-gas core.
 - a. Si
 - b. Ni
 - c. Ag
 - d. La
 - e. W
3. How many unpaired electrons are there in an atom of sulfur?
4. Arrange the following elements in order of increasing size: Al, B, C, K, and Na
5. Periodic trends. Explain each answer briefly.
 - a. Rank the following in order of increasing atomic radius: O, S, F.
 - b. Which has the largest first ionization energy: Si, S, or Se?
 - c. Place the following in order of increasing first ionization energy: Cs, Sr, Ba.
 - d. Which element has the largest jump in IE between IE_2 and IE_3 ? K, O, Mg, Fe