

Electron Configurations: Exercises

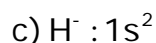
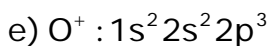
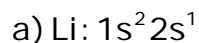
1. Determine the electron configurations of these atoms using

- a) shorthand notation
- b) orbital diagrams
 - nitrogen
 - argon
 - magnesium

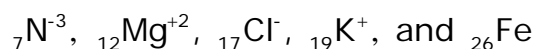
Suppose that those atoms are in their ground-state.

2. Determine if the following electron configurations represent

- a. the ground-state electron configuration
- b. the electron configuration of an excited state
- c. an impossible electron configuration



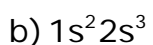
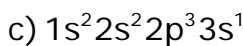
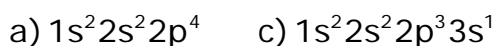
3. Write the electron configurations of the following atoms and ions



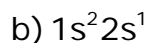
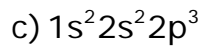
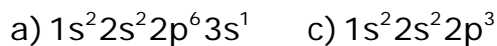
Determine which ones are isoelectronic (the same amount of electrons and, therefore, those who have the same electron configuration).

Determine which are the unpaired electrons.

4. Write which electron configurations are not possible:



5. Determine if the following electron configurations correspond to ground-states or to excited states.



6. Order the following orbits in increasing energy order: 3p, 3d, 4s, 4p, 4d, 4f and 5s.