

1. Show the orbital diagram for the following elements.



2. Write electron configurations (showing where all the electrons are located) for the following. If necessary, use the orbital diagram to assist in the process.



Element	# of Electrons	Electron Configuration
H		
He		
Li		
Be		
B		
C		
F		
Ne		
Na		
Mg		
Al		
S		
Ar		
K		
Ca		



5. On the periodic table below, identify the s-block, p-block, d-block and f-block elements. Then make the connection between the various orbitals and the elements in the periodic table.


6. Use the noble gases to write **abbreviated electron configurations** for the following:
- H \_\_\_\_\_
  - Li \_\_\_\_\_
  - O \_\_\_\_\_
  - Mg \_\_\_\_\_
  - Cl \_\_\_\_\_
  - V \_\_\_\_\_
  - EE \_\_\_\_\_
  - Se<sup>2-</sup> \_\_\_\_\_
  - Cr<sup>2+</sup> \_\_\_\_\_
  - I \_\_\_\_\_
  - Ag \_\_\_\_\_
  - Sn<sup>2+</sup> \_\_\_\_\_

7. An ion of an isotope has a 2+ charge, an atomic mass of 56.9397 amu, 2 electrons at the n=4 energy level and 13 electrons at the n=3 energy level. Determine the ...
- ... atomic number: \_\_\_\_\_
  - ... mass number: \_\_\_\_\_
  - ... total number of electrons: \_\_\_\_\_
  - ... total number of s electrons: \_\_\_\_\_
  - ... total number of p electrons: \_\_\_\_\_
  - ... total number of d electrons: \_\_\_\_\_