

1. In each of the following energy level changes, indicate if energy is: absorbed, emitted, or not changed.
  - A. An electron falls down from the third energy level to the second energy level.  
Circle one: absorbed, emitted, or not changed.
  - B. An electron moves up from the first energy level to the third energy level.  
Circle one: absorbed, emitted, or not changed.

2. Identify the following orbitals as s, p, or d orbitals.



3. Silver occurs naturally as two different isotopes,  $^{107}\text{Ag}$  and  $^{109}\text{Ag}$ . Which isotope has the greatest abundance? Briefly explain your answer.
4. Identify the names or symbols of the elements whose atoms have the following electronic configurations:
  - a.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$
  - b.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^8$
5. Write the complete electron configuration for the following:
  - a. cobalt atom
  - b. neon atom