Quiz 4A

1. Does the combustion of a peanut produce energy (i.e. an exothermic process) or absorb energy (i.e. an endothermic process) (2 points)?

The combustion of a peanut is an exothermic process.

1. Will a Bunsen burner or a match be used to ignite the peanut (1 point)? \_\_\_match\_\_\_\_\_\_\_\_\_
2. Of the elements Rb, Sr, I and Xe, which (5 points)
   1. has the lowest ionization energy? \_\_\_\_\_Rb\_\_\_\_
   2. is found in Group 2A, period 5? \_\_\_\_\_Sr\_\_\_\_
   3. is a noble gas? \_\_\_\_\_Xe\_\_\_\_
   4. has the smallest atomic radius? \_\_\_\_\_Xe\_\_\_\_
   5. is the most metallic? \_\_\_\_\_Rb\_\_\_\_
3. Classify each of the following items as characteristic of a proton, neutron or electron (3 points):
   1. +1 charge \_\_\_\_\_proton\_\_\_\_
   2. Found outside the nucleus \_\_\_\_\_electron\_\_\_\_
   3. Approximately the same mass as a proton \_\_\_\_\_neutron\_\_\_\_
4. Classify each statement as true or false (4 points).
   1. Period 5 elements have an inner electron configuration of [Xe] \_\_\_\_\_false\_\_\_\_
   2. The valence electrons of group 5A elements are in the 6s sublevel.

\_\_\_\_\_false\_\_\_\_

* 1. The valence electrons of group 2A elements are in an s sublevel \_\_\_\_\_true\_\_\_\_
  2. Period 3 elements have six 2p electrons \_\_\_\_\_true\_\_\_\_

1. Answer the following questions about a third period element with seven valence electrons (5 points):
   1. Write the complete electron configuration. 1s22s22p63s23p5
   2. Write the electron configuration using core notation [Ne] 3s23p5
   3. How many core electrons are there? 10
   4. Write the electron dot symbol. 

Quiz 4B

1. Answer the following questions about a halogen with ten core electrons (5 points):
   1. Write the complete electron configuration. 1s22s22p63s23p5
   2. Write the electron configuration using core notation [Ne] 3s23p5
   3. How many valence electrons? 7
   4. Write the electron dot symbol. 
2. Classify each of the following items as characteristic of a proton, neutron or electron (3 points):
   1. Approximately the same mass as a neutron \_\_\_\_\_proton\_\_\_\_
   2. No charge \_\_\_\_\_neutron\_\_\_\_
   3. Smallest mass of the three particles \_\_\_\_\_electron\_\_\_\_
3. Classify each statement as true or false (4 points).
   1. Period 4 elements have an inner electron configuration of [Ar] \_\_\_\_\_true\_\_\_\_
   2. The highest principal quantum number of period 2 elements is 2. \_\_\_\_\_true\_\_\_\_
   3. The highest principal quantum number of period 3 elements is 4. \_\_\_\_\_false\_\_\_\_
   4. Group 8A elements have full outer principal s and p subshells. \_\_\_\_\_true\_\_\_\_
4. Of the elements Rb, Sr, I and Xe, which (5 points)
   1. requires the most energy to remove an electron? \_\_\_\_\_Xe\_\_\_\_
   2. is found in Group 2A, period 5? \_\_\_\_\_Sr\_\_\_\_
   3. is a halogen? \_\_\_\_\_I\_\_\_\_
   4. has the largest atomic radius? \_\_\_\_\_Rb\_\_\_\_
   5. is the least metallic? \_\_\_\_\_Xe\_\_\_\_
5. Does the combustion of a peanut produce energy (i.e. an exothermic process) or absorb energy (i.e. an endothermic process) (2 points)?

The combustion of a peanut is an exothermic process.

1. Will a Bunsen burner or a match be used to ignite the peanut (1 point)? \_\_\_match\_\_\_\_\_\_\_\_\_