**Quiz 4A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. Answer the following questions about bromine (6 points).
   1. What is the chemical symbol? \_\_\_\_Br
   2. What is the complete electron configuration? \_\_\_1s2 2s2 2p6 3s2 3p6 4s2 3d10 4p5
   3. What is the condensed electron configuration? \_\_\_[Ar] 4s2 3d10 4p5
   4. How many d electrons total? \_\_\_10
   5. How many valence electrons (outer s and p electrons)? \_\_\_7
   6. Write the dot structure.
2. If the bromine gained one electron (4 points).
   1. What is the new chemical symbol? \_\_\_Br-
   2. What is the new condensed electron configuration? \_\_\_\_[Ar] 4s2 3d10 4p6 or [Kr]
   3. Write the dot structure.

1. Draw a 2 p and a 4 p orbital (2 points).

2 p should look like a dumbbell. 4 p should look like a dumbbell that is larger than the 2p.

1. Rank the elements: Mg, F, Rb, P in terms of (6 points):
   1. increasing atomic size: F < P < Mg < Rb
   2. decreasing metallic character: Rb > Mg > P > F
2. Is this week’s experiment a wet lab or a dry lab (1 point)? \_\_\_\_\_\_dry lab
3. Is the reading for this week’s experiment short, long, or very long (1 point)? \_\_\_very long