**Quiz 1A**

# 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. The scientific approach of critical thinking is useful in resolving many of our everyday problems. In proper order, critical thinking involves (2 points)
   1. observation, hypothesis, and experiment
   2. hypothesis, experiment, and observation
   3. observation, experiment, and hypothesis
2. Write the symbol for the following elements (3 points):
   1. Hydrogen \_\_\_\_\_\_\_H\_\_\_
   2. Calcium \_Ca\_\_\_\_\_\_\_\_
   3. Oxygen \_\_O\_\_\_\_\_\_\_\_
3. Identify each atom by their group name (alkali metal, alkaline earth metal, halogen, or noble gas) (5 points)
   1. Bromine \_\_\_\_halogen\_\_\_\_\_\_\_
   2. Potassium \_\_\_\_alkali metal\_\_\_\_
   3. Xenon \_\_\_\_noble gas\_\_\_\_\_\_
   4. Helium \_\_\_\_noble gas\_\_\_\_\_\_
   5. Magnesium \_\_alkaline earth metal
4. Are the following statements true or false (5 points)?

|  |  |  |
| --- | --- | --- |
|  | Mercury and bromine are liquids at room temperature. | True |
|  | Don’t write your data on scratch paper as your instructor will confiscate it. | True |
|  | Excess chemicals should be placed back into the original container since conservation is important. | False |
|  | If a chemical splashes in your eyes, you should rinse your eyes for 2 minutes. | False |
|  | Oxygen is one of the seven diatomic elements. | True |

1. The radius of an aluminum atom is 0.00000001432 cm. (3 points)
   1. how many significant figures is the radius of an aluminum atom reported to? 4
   2. write value in scientific notation 1.432 x 10-8 cm
2. Complete the following calculation to the correct number of significant figures (2 points):

125.541 g + 2.74 g = 128.281 g ≈128.28 g