**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. Classify each of the following elements as a metal, metalloid, or nonmetal (3 points):
   1. Kr \_\_\_\_\_\_\_nonmetal\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. As \_\_\_\_\_\_\_metalloid\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Zr \_\_\_\_\_\_\_metal \_\_\_\_\_\_\_\_\_\_\_\_\_
2. Name the following elements (3 points):
   1. He \_\_\_\_\_helium\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. N \_\_\_\_\_nitrogen\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. C \_\_\_\_\_carbon\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Are the following statements true or false (5 points)?

|  |  |  |
| --- | --- | --- |
|  | All of the metals on the periodic table are solids at room temperatures. | False |
|  | It is okay to write your measurements down on scratch paper and then transfer them to your data sheet so that it looks nice. | False |
|  | If your hair or clothing should catch on fire one option is to smother it using a fire blanket. | True |
|  | Sweep up breakage immediately and place it in the broken glass box. | True |
|  | If a chemical spills on your hand, you should immediately go to the sink, rinse your hand for at least 15 minutes, and inform your instructor. | True |

1. Consider each of the following statements and determine whether it represents an observation, a hypothesis, a theory, or a scientific law (3 points):
   1. A pure substance has a definite, fixed composition. law
   2. The air feels warm. observation
   3. The battery in my watch must be dead since it is no longer keeping time. hypothesis
2. The mass of an electron is 0.000548579909 amu (2 points)
   1. how many significant figures is the mass of an electron reported to? 9
   2. write value in scientific notation 5.48579909 x 10-4 amu
3. Complete the following table for metric prefixes (4 points):

|  |  |  |  |
| --- | --- | --- | --- |
|  | Prefix | Abbreviation | Means |
|  | cent- | c- | 10-2 |
|  | kilo- | k- | 103 |
|  | milli- | m- | 10-3 |