**Test #2 Make Up – General Chemistry**

1) Name a property that is both an intensive property and a physical property. (1 pt)

2) Let’s say that I believe a hamster will squeak if I feed it dried papayas. In this case, what are my dependent and independent variables? (2 pt)

3) One of Dalton’s laws is the Law of Multiple Proportions. In your own words, state the Law of Multiple Proportions. (3 pt)

4) What role do neutrons play in the nucleus of an atom? (3 pt)

5) List Dalton’s five laws. Indicate whether each is true: (2 pt each)

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6) Answer the following questions (1 pt each):

* How many protons are in vanadium-48? \_\_\_\_\_\_\_\_\_\_
* How many neutrons are in lithium-8? \_\_\_\_\_\_\_\_\_\_
* What is the atomic number of strontium-88? \_\_\_\_\_\_\_\_\_\_
* What element has 51 electrons when neutral? \_\_\_\_\_\_\_\_\_\_

7) Why is it impossible for the isotope 91U to exist? (3 pt)

8) Element X has three isotopes. 45X has an abundance of 2.3%, 46X has an abundance of 39.0%, and 47X has an abundance of 58.7%. Given this information, what is the average atomic mass of element X? (5 pt)

7) Explain the steps by which light is emitted when an atom is heated. (3 pt)

8) Explain why no two elements have the same line spectrum. (3 pt)

9) What is the difference between a line spectrum and a continuous spectrum? (3 pt)