Chemistry Review #2

**Please answer clearly on your own paper.**

1. State how you determine the number of significant figures when you multiply or divide two numbers?

2. State how you determine the number of significant figures when you add or subtract two numbers?

3. What happens to exponents when you multiply two numbers in scientific notation?

4. What happens to exponents when you divide two numbers in scientific notation?

5. How many nonzero numbers should be in front of decimal point when you write a number in scientific notation?

6. Change the following to scientific notation.

A) 0.000900 B) 4350000 C) 51500.0 D) 0.09105

7. Solve the following and give answers in correct significant figures and Scientific notation.

A) (4.050x105) x (2.1x107) =

B) (8.0155x109) x (3.55x10-23) =

C) (7.56x1041) x (9.456x1061) =

D) (8.1100x1064)/ (1.250x10-75) =

E) (9.05x10-41) / 8.2300x10-51) =

F) 6050 – 5875=

G) 0.9350 x 2.35=

H) 1.4560 + 2.5=

I) 0.09500 + 0.17567=

8. For the following compounds. Calculate the % of Oxygen in them. Show Calculation.

A) Fe2(SO4)3

B) Ca(NO3)2

7. Why wasn’t Democritus given credit for his explanation that all matter is made up of atoms?

8. Give two examples on how John Dalton’s atomic theory has changed in recent times.

9. Identify the number of protons, neutrons and electrons in the following elements.

A) Silver-109

B) Silicon-28

C) Uranium- 235

10. What is an isotope?

11. How do you find the number of neutrons in an atom?

12. Why is the atomic mass in the periodic table not a whole number?

13. How is Schrodinger’s definition of an atom different from Bohr’s?

14. Why was JJ Thomson’s atomic model called the plum pudding model?

15. What did Rutherford discover about the nucleus in his gold foil experiment?