CP Chemistry Unit 1 Test Review KEY

Problems and guestions:

170	Round each of the follow	ing numbers to 3 significant.	figures:		
	a) .09882 .0988	b) 123,459 123,000	c) 102.45 102	d) 2.301 x 10 ⁻³	2.30×10^{-3}

- Calculate, use sig figs: (12.22 x 14.02 x 120.1 x .555) / 10.00 = 1140
- A sample of metal having a mass of 12.122 g is added to a graduated cylinder containing 35.2 mL of water. The water level rises to 38.4mL. Calculate the density, use correct significant figures.

$$d = \frac{12.122}{3.2} = 3.8 g/mL$$

4. Calculate the % error for an experiment where the student measured 3.45 g and the actual value was 3.00 g?

$$Nerror = \frac{(3.45 g - 3.00g)}{(3.00g)} \times 100 = 15.0\%$$

- Write the symbol for the following ions: Mg losing 2 e-, Al losing 3 e-, N gaining 3 e-, S gaining 2 e-Mg²⁺, Al²⁺, N²⁻, S²⁻
- 6. a) 2 b) 3 c) 12 d) 5
- List three points of Dalton's atomic theory.
 - A. Elements made of tiny particles, called atoms
 - B. Atoms of a given element are identical; the atoms of different elements are different.
 - In chemical reactions, atoms are combined, separated, or rearranged. Atoms cannot be subdivided, created, or destroyed.
 - D. Atoms combine with atoms, in small whole numbers, to form compounds.
- Describe Thompson's experiment with the cathode ray tube, what did he discover?
 Cathode ray tube consists of a cathode (negative) and anode (positive) side. The "ray" could be bent with magnetic or

electric fields. The "ray" bent toward a positive EM field and away from a negative EM field. Discovered electron and charge to mass ration of electron.

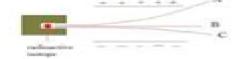
9. Describe Millikan's Oil Drop experiment. What exactly did he determine?

He suspended a micro oil droplet in an electric field and was able to determine the actual charge of an electron to be -1.6 x 10-19 C. Also, determined the mass of an electron.

10. Explain Rutherford's Gold Foil experiment. What were three observations and three conclusions?

He fired alpha particles at fold foll and observed: 1) most went straight through, 2) small number showed a slight deflection, 3) very few bounced straight back. He concluded: 1) mass of atom is in the nucleus, 2) nucleus is positively charged, 3) atom mostly empty space.

- 11. What is an isotope? Atoms of the same element that differ by # of electrons.
- 12. Write the symbol of the most abundant copper isotope if the average atomic mass is 63.55? SCI
- Write the nuclear symbol for an isotope with Z=40, and 45 neutrons?
- 14. Consider the diagram and match the letters with the appropriate particle
- As electron, Bs neutron, Cs proton



15. Place the forms of hydrogen (H. H*, H, Hz) in the table.

Atom	Cation	Anion	Molecule
	H1*	H°	942

Chemistry Unit 1 Solutions Test Review Answers

Liying Dong

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