

Chemistry 121
Fall 2004
Test 1, FORM A

Name: _____

Instructions: You have 50 minutes to complete this 100-point exam. You may use a simple scientific calculator. No programmable calculators allowed.

1 in = 2.54 cm

1000g = 1kg

1000 mg = 1 g

I. MULTIPLE CHOICE: (25 pts, 5 points each) Carefully and clearly circle the best answer. If you circle two answers, *one of which is correct*, you will receive 3 points.

1. The mass number of an atom is indicated by:
 - a. The number of protons
 - b. The number of electrons
 - c. The number of neutrons
 - d. The number of protons + electrons
 - e. The number of protons + neutrons

2. The chemical formula for a compound containing 3 oxygen atoms, 5 hydrogen atoms, 4 carbon atoms and 1 fluorine atom is:
 - a. $O_3H_5C_4F$
 - b. $C_4FH_5O_3$
 - c. $C_4H_5FO_3$
 - d. $C_4H_5O_3F$
 - e. None of the above

3. The number of significant figures in 0.0059420 is:
 - a. 4
 - b. 5
 - c. 6
 - d. 7
 - e. None of the above

4. Elements in Group 1A of the periodic table are called:
 - a. Nonmetals
 - b. Halogens
 - c. Alkaloids
 - d. Alkaline Earth Metals
 - e. Alkali Metals

5. A temperature of 303 K is _____°C.
 - a. 30
 - b. 273
 - c. 576
 - d. 303
 - e. None of the above.

5. (10 pts) The density of silver is 10.50 g/mL. What is the volume of a silver necklace that weighs 1.25 g?
6. (15 pts) Millikenium, with element symbol Mi, originates on planet Oil Drop. Millikenium has 2 isotopes: ^{35}Mi with a mass of 34.9567 g/mol and ^{39}Mi with a mass of 39.0095 g/mol. The molar mass of millikenium is 35.9826 g/mol. What are the percent abundances of both of the isotopes?
7. (15 pts) How many molecules of Vitamin E are in a 500 mg Vitamin E tablet? You will need to use the molar mass you determined in 4a.