Chem I Name _____

Date _____ Per __

Review for the Density and Conversions Test

Al = 2.70 g/mL	Cu = 8.96 g/mL	Zn = 7.14 g/mL
Pb = 11.34 g/mL	Fe = 7.87 g/mL	Au = 19.32 g/mL
Hg = 13.546 g/mL	Mg = 1.745 g/mL	water = 1.00g/mL

1.000 inch = 2.540 cm	1.000 mL = 1.000 cm^3 = 1.000 cc
1.000 mile = 5280. feet	1.000 yard = 3 feet
1.000 teaspoon = 4.9289 mL	1.000 gallon = 16.000 cups = 3.7854 Liters
1.000 pound = 453.59 grams	1.000 yard = 3.000 feet
1.000 minute = 60.000 seconds	1.000 ton = 2,000. pounds
1.000 hour = 60.000 minutes	1.000 foot = 12.000 inches

1. How many sig figs are in each of the following numbers?

_____ 10003.0 _____ 0.0023 _____ 2309,000

_____ 1.000 _____ 2.3 + 122.54 _____ 2.3 x 122.54

2. What are the symbols for each of the following elements?

____ sodium ____ mercury ____ silver ____ gold ____ copper

____ iron ____ tin ____ antimony ____ lead ____ zinc

3. Answer with the correct number of sig figs (of course)

a. 37.29 + 0.034 = _____

b. 167 ÷ 1.2349 = _____

c. 2.3 x 298 x .07618 = _____

d. 1,230 - 999 = _____

4. 10.0 gallons = _____ liters

5. How many pounds would 1.000 cup of water weigh? (hint: cups to mL to g to pounds)

6. 1.00 x 10^6 inches (one million) would be how many miles?

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7. 45.0 cm^3 gold = _____ grams

8. 2.08 g mercury = _____ cm^3

9. 1.00 tons gold = _____ liters gold

10. How much would an iron cylinder 12.7 inches tall with a diameter of 4.78 inches weigh in kilograms? [the volume of a cylinder = $\pi r^2 h$]

11. How many square feet are in 2.50 square miles?

12. How much would 1.00 ft^3 of aluminum weigh in pounds?

13. If a leaky faucet drips at a rate of 1.500 drops per second, and there are 20.0 drops in a milliliter, how many gallons will it leak in a year?

14. In the opening scenes of the movie Raiders of the Lost Ark, Indiana Jones tries to remove a gold idol from a booby-trapped pedestal. He replaces the idol with a bag of sand of approximately equal volume. (The density of sand is about 2.0 g/mL.)

a. Did he have a reasonable chance of not activating the mass-sensitive booby trap?

b. In a later scene he and an unscrupulous guide play catch with the idol. Assume that the volume of the idol is about 1.0 L. If it were solid gold, what mass would the idol have in pounds? Is playing catch with it plausible?

15. If you do the same thing to a 1998 Canadian penny that we did to our American pennies, you'll get the following data (assume the penny is copper on the outside and zinc on the inside):

	Mass
Penny before acid	2.250 g
Penny after acid	.036 g

If Copper was 2.83 dollars per pound and zinc was .826 dollars per pound, what would be the value of the metals in the 1998 Canadian penny?