***Density, Temp, % error Class Examples***

1. A block of aluminum occupies a volume of 15.0 mL and weighs 40.5 g. What is its density?

2. Mercury metal is poured into a graduated cylinder that holds exactly 22.5 mL. The mercury used to fill the cylinder weighs 306.0 g. From this information, calculate the density of mercury.

3. What is the weight of the ethanol that exactly fills a 200.0 mL container? The density of ethanol is 0.789 g/mL.

4. A rectangular block of copper metal weighs 1896 g. The dimensions of the block are 8.4 cm by 5.5 cm by 4.6 cm. From this data, what is the density of copper?

5. What volume of silver metal will weigh exactly 2500.0 g. The density of silver is 10.5 g/cm3.

7. Convert the following to Celsius

a) 100o K \_\_\_\_\_\_\_\_

b) 200o K \_\_\_\_\_\_\_\_

c) 273o K \_\_\_\_\_\_\_\_

6. Convert the following to Kelvin

a) 0o C \_\_\_\_\_\_\_\_

b) -50o C \_\_\_\_\_\_\_\_

c) 90o C \_\_\_\_\_\_\_\_

8. Scooby uses his thermometer and finds the boiling point of ethyl alcohol to be 75o C. He looks in a reference book and finds that the actual boiling point of ethyl alcohol is 78oC. What is his percent error?

9. Betty Lou weighed an object on her balance and recorded a mass of 24.21 grams. Her teacher told her that there was obviously something wrong with her balance because the actual mass was 25.8 grams. What was the percent error of her measurement?

10. An object has a mass of 35.0 grams. On Dewey’s balance, it weighs 34.92 grams. What is the percent error of his balance?

11. The density of water at 4oC is known to be 1.00 g/mL. Lucille experimentally found the density of water to be 1.08 g/mL. What is her percent error?

5. The Handbook of Chemistry and Physics lists the density of a certain liquid to be 0.7988 g/mL. Huey experimentally finds this liquid to have a density of 0.7914 g/mL. What is Huey’s percent error?