**QUESTION 1**

Identify the major SI unit used for the following quantities:

1. **Mass:** SI unit = \_\_\_\_\_\_
2. **Volume:** SI unit = \_\_\_\_\_\_
3. **Temperature:** SI unit = \_\_\_\_\_\_
4. **Length:** SI unit = \_\_\_\_\_\_\_

**QUESTION 2**

One kilosecond is the same as

a. 0.001 s

b. 0.01 s

c. 100 s

d. 1,000 s

**QUESTION 3**

Translate the following symbols into units:

1. mm: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. K: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. ks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. pL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**QUESTION 4**

Write the correct symbol for the following units:

1. nanosecond = \_\_\_\_\_\_\_\_\_\_
2. microliter = \_\_\_\_\_\_\_\_\_\_\_\_
3. kilogram = \_\_\_\_\_\_\_\_\_\_\_\_\_
4. centimeter = \_\_\_\_\_\_\_\_\_\_

**QUESTION 5**

If the mass of a block is 1035 g and the volume is 310 cm3, what is the density of that object?

**QUESTION 6**

In an experiment, a student found the mass of an object to be 23.61g and the volume of an object to be 3 cm3. What element did the student take measurements of?

**QUESTION 7**

Identify the major instruments used to measure the following quantities:

1. **Mass:** Instruments = \_\_\_\_\_\_
2. **Volume:** Instruments = \_\_\_\_\_\_
3. **Temperature:** Instruments = \_\_\_\_\_\_
4. **Length:** Instruments = \_\_\_\_\_\_\_

**QUESTION 8**

A student estimated a mass to be 250g, but upon measuring it carefully, found the actual mass to be 240g. What is the percent error?

**QUESTION 9**

Which element has the greatest density at STP?

1. Nitrogen
2. Nickel
3. Neon
4. Niobium

**QUESTION 10**

Find the volume of an object that has a density of 1.54 g/cm3 and a mass of 0.4g.

**QUESTION 11**



**QUESTION 12**

A student measures the mass and volume of a piece of lead. The measurements are 70.8 grams and 6.5 cubic centimeters. The student calculates the density of the lead. What is the percent error of the student’s calculated density of lead?

**QUESTION 13**



Determine whether the following is accurate and/or precise. Explain why!

**QUESTION 14**

Find the mass of an object that has a density of 9.70 g/mL and a volume of 3.2mL.

**QUESTION 15**

An experimental measurement was taken of 10.4mL and the actual measurement was 9.7mL. What is the percent error?

**QUESTION 16**

1. Base your answer on A student used a balance and a graduated cylinder to collect the following data.

Sample mass: 7.83g

Volume of water: 50.0mL

Volume of water and sample: 52.5mL

*a* Calculate the density of the element. Show your work.

*b* If the accepted value is 3.5 grams per milliliter, calculate the percent error.