

Assignment 2

Choose/Fill-in the correct answer.

1. Perform the following calculations and report the number of significant figures in your answer.
 $[(3.4 \text{ grams} + 0.02 \text{ grams}) / 34.55 \text{ g/mole}] / 0.02 \text{ L}$

- 1
 2
 3
 4

2. Perform the following calculations and report the answer in the correct number of significant figures.

$$\frac{(0.1760 - 0.1752)}{32.67} = x$$

- $x = 2 \times 10^{-5}$
 $x = 2.4 \times 10^{-5}$
 $x = 2.45 \times 10^{-5}$
 $x = 2.449 \times 10^{-5}$

3. What fraction or multiple of a unit does the symbol M represent?

- 10^{-6}
 10^{-3}
 10^3
 10^6

4. How many significant figures does the measurement 0.05080 grams has?

- 1
 2
 3
 4

5. A simple way to determine the volume of a flask is to weigh the flask when it is dry and weigh it again when it is filled with water.

The weight of the dry flask = 50.17 grams

The weight of the filled flask = 109.55 grams

Given that the density of water is 0.998 g/mL, calculate the volume of the flask in liters.

(Enter numeric answer here.)

6. The following measurements of a metal bar were made by a student.
- o length = 5.7 cm

- o width = 9.5 cm
- o height = 3.1 mm

The mass of the bar is 37 gram.

Calculate the density (g/cm^3) of the material.

(Enter numeric answer here.)

7. The formation of carbon monoxide in the incomplete burning of gasoline.

- a chemical change
 a physical change
 a chemical property
 a physical property

8. Magnesium hydroxide, $\text{Mg}(\text{OH})_2$, is

- an element
 a compound
 a heterogeneous mixture
 a homogeneous mixture

9. Which of the following involves a physical change?

- the formation of HCl from its elements
 the formation of steam from burning H_2 and O_2
 the solidification of butter at low temperatures
 the formation of mold on bread

10. Which of the following statements is wrong?

- Matter exists in a variety of states and forms.
 Matter is made up of compounds.
 Matter occupies space.
 There are more than 100 elements that are known to us.