ARMS
ACADEMY

GENERAL CHEMISTRY

Ch 1

Practice

Our Groups

قناة الاكاديمية

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Q1/ What are the physical properties of matter? Give three examples.

The characteristic of matter that can be changed without changing composition

melting point - Volume - color

Q2/ Define chemical properties and explain how they differ from physical properties.

The characteristic that determines how the composition of the matter changes as a result of contact with other matter or the influence of energy.

Physical properties: cannot change the composition.

Q3/ What is the difference between a pure substance and a mixture?

Pure substance	Mixture
Made of one type of atom	Made of multiple types of atoms
All samples show the same intensive properties	Samples show different intensive properties

Q4/ Classify the following as:
Element / Compound / Homogeneous mixture / Heterogeneous mixture

a. Milk — Heterogeneous mixture

b. Oxygen gas — Element

c. Sugar water — Heterogeneous mixture

d. Pizza — Heterogeneous mixture

Q5/ What is the SI unit of mass and temperature?

SI unite of mass is Kilogram (Kg)

SI unite of mass is Lelvin (K)

Q6/ Convert 35°C to Kelvin.

$K = °C + 273.15$

$K = 35 + 273.15 = 308.15$

Q7/ Define density. Write its formula and SI unit.

Density is the ratio of mass to volume

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

unit gm/cm^3 for solid and gm/mL for liquid

Q8/ A piece of metal weighs 200 g. When placed in water, it displaces 50 mL of water. Calculate its density.

$$D = \frac{m}{V}$$

$$D = \frac{200}{50} = 4\ gm/cm^3 \quad \text{where } 1cm^3 = 1mL$$

Q9/ What is the difference between accuracy and precision?

accuracy: How close to the read value or
It is an indication of how close a measurement comes to the actual value of the quantity

Q10/ How many significant figures are in each of the following?

a. 0.00450 — 3

b. 1.50×10^2 — 3

c. 4500 — 2

d. 2.300 — 4

Q11/ Solve and write the answer using the correct number of significant figures:

a. 4.50 × 3.2 = 14.4 = 14

b. 15.00 ÷ 4.2 = 3.57142 = 3.6

Q12/ Differentiate between a physical change and a chemical change.

Physical change: the change that alters the state or appearance of the matter without altering the composition

Chemical change: the change that alters the composition of the matter.

Q13/ A liquid has a mass of 150.0 g and occupies a volume of 120.0 mL.
What is the density of the liquid? Is this density higher or lower than water?

$$D = \frac{150}{120} = 1.25 \text{ gm/mL}$$

This density is higher than the density of water

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استثمر في تعليمك اليوم ،لتحصد
ثمار ذلك غداً

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