



$$4:35 = 4:40$$

5 mins

A

Choose the correct answer

A-1 Which of the following is not a mixture?

a) Oxygen

b) Pizza

c) Sugar solution

d) Air

A-2 What is the SI unit for length?

a) Centimeter

b) Inch

c) Meter

d) Kilometer

A-3 How many decimeters are there in 15 centimeters?

a) 150 dm

b) 1.5 dm

c) 0.15 dm

d) 15 dm

A-4 What is the symbol of the element that has 24 neutrons and a mass number of 45?

a) Sc

b) Tm

c) Cr

d) Rh

A-5 How many electrons are in ${}^{48}_{22}\text{Ti}^{4+}$?

a) 18

b) 22

c) 26

d) 70

A-6 Which of the following elements is a metal?

a) Co

b) Ar

c) I

d) C

A-7 Which two of the following pair of atoms are isotopes?

a) ${}^{39}_{19}\text{K}$ and ${}^{39}_{18}\text{Ar}$

b) ${}^{40}_{20}\text{Ca}$ and ${}^{40}_{21}\text{Sc}$

c) ${}^{40}_{20}\text{Ca}$ and ${}^{43}_{20}\text{Ca}$

d) ${}^{39}_{19}\text{K}$ and ${}^{23}_{11}\text{Na}$

A-8 Which three elements have similar chemical properties?

a) N, O, Ne

b) Na, Mg, Al

c) Ca, Sr, Ba

d) Ni, Cu, Zn

A-9 Which of the following could be an empirical formula?

a) C_6H_6

b) C_5H_{10}

c) C_4H_{10}

d) C_2H_5

A-10 An example of monatomic ion is

a) NO_3^{-1}

b) O^{-2}

c) O_2

d) SO_4^{-2}

A-11 How many moles are in 3 g of carbon?

a) 0.5 mole

b) 4 mole

c) 0.25 mole

d) 2 mole

A-12 How many atoms are there in 5.4 g of sodium?

a) 6.023×10^{23} atoms

b) 3.011×10^{23} atoms

c) 1.41×10^{23} atoms

d) 1.501×10^{23} atoms

$$53.94 \times 0.0599 + 55.93 \times 0.9175$$

A

A-13 Calculate the average atomic mass of iron which consists of three stable isotopes: iron-54 (5.99%), iron-56 (91.75%) and iron-57 (2.26%) which has atomic masses of 53.94 amu, 55.93 amu and 56.94 respectively.

- a) 57.1 amu b) 54.47 amu c) 52.52 amu d) 55.83 amu

A-14 What is the percent composition of phosphorus in $\text{Ca}_3(\text{PO}_4)_2$?

- a) 20 % b) 11% c) 22% d) 36%

A-15 A compound is composed of 40.92% carbon, 4.58% hydrogen and 54.5% oxygen by mass. Determine the empirical formula of this compound?

- a) CHO b) $\text{C}_2\text{H}_3\text{O}_2$ c) $\text{C}_3\text{H}_4\text{O}_3$ d) C_3HO_3

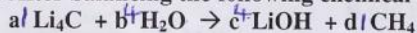
A-16 The molar mass of the compound above found to be 176 g/mole. What is its molecular formula?

- a) $\text{C}_6\text{H}_6\text{O}_6$ b) $\text{C}_6\text{H}_5\text{O}_6$ c) $\text{C}_7\text{H}_{12}\text{O}_5$ d) $\text{C}_6\text{H}_8\text{O}_6$

A-17 The process in which one or more substances are changed into one or more new substances is called:

- a) dilution b) mole c) Chemical symbols d) Chemical reaction

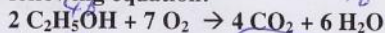
A-18 After balancing the following chemical equation:



The sum of a, b, c and d (a+b+c+d) is:

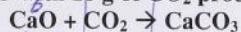
- a) 10 b) 6 c) 8 d) 5

A-19 How many grams of water is produced by burning 23 g of $\text{C}_2\text{H}_5\text{OH}$ according to the following equation:



- a) 9 g b) 27 g c) 18 g d) 21.5 g

A-20 The reaction of 10 g CaO with 10 g of CO_2 produced CaCO_3 according to the following equation:



The limiting reagent is:

- a) CaO b) CO_2 c) CaO and CO_2 d) CaCO_3

A-21 What is the excess reagent in the previous question (question 20)?

- a) CaO b) CO_2 c) CaO and CO_2 d) CaCO_3

A-22 What is the percent yield of CaCO_3 in question (20) if 15 g of CaCO_3 are actually obtained?

- a) 100 % b) 66 % c) 84 % d) 150%

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- 58.5
- A-23 What mass of NaCl is needed to prepare 1 L of 0.5 M sodium ion solution?
a) 11.5 g b) 29.25 g c) 55.5 g d) 32.3 g
- A-24 What volume of 0.5M NaOH solution would you need to prepare 100 mL of 0.1 M NaOH solution?
a) 200 mL b) 0.20 mL c) 20 mL d) 2 mL
- A-25 1 L of a 0.5 M NaCl solution is mixed with 0.5 L of 0.1 M NaCl. What is the concentration of NaCl in the final solution?
a) 0.367 M b) 0.6 M c) 0.55 M d) 0.4 M
- A-26 Calculate the density of platinum metal with a mass of 96.5g and a volume of 4.49 cm³?
a) 21.5 g/mL b) 2.15 g/mL c) 0.05 g/mL d) 215 g/mL
- A-27 What is the chemical name of the formula SO₂?
a) Sulfur dioxide b) Sulfur trioxide c) Sulfur oxide d) Sulfate
- A-28 What is the correct formula of sodium nitrate?
a) NaNO₃ b) NaNO₂ c) NaN d) NaNO₄
- A-29 The correct formula of a compound consists of F and Mg is
a) Mg₂F₃ b) Mg₂F c) MgF₂ d) MgF
- A-30 Which of the following is most likely to be poor conductors of heat and electricity?
a) F b) Mg c) Na d) Fe
- Quinn*