

Class: IX
Subject: chemistry
Topic: Atoms and Molecules
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

1: In water, hydrogen and oxygen are present in the ratio of _____.

1. 1:8
2. 2:12
3. 2:3
4. 1:2

Answer: 1

Explanation: H_2O

Mass of H atom=2

Mass of O atom=16

Ratio= $2/16=1:8$

2: An example of a triatomic molecule is _____.

1. Ozone
2. Nitrogen
3. Carbon monoxide
4. Hydrogen

Answer: 1

Explanation: Ozone = O_3 It consist s of 3 atoms

3: The quantity of matter present in an object is called its _____.

1. Mass
2. Volume
3. Density
4. Vapour pressure

Answer: 1

Explanation: Matter is the amount of substance present in an object

4: Indivisibility of an atom was proposed by _____.

1. Dalton
2. Rutherford
3. Thomson
4. Bohr

Answer: 1

Explanation: Dalton proposed that Matter can't be divided further.

5: The value of Avogadro constant is _____.

1. 6.022×10^{24}
2. 6.022×10^{22}
3. 60.22×10^{23}
4. 6.022×10^{23}

Answer: 4

Explanation: Factual

6: All samples of carbon dioxide contain carbon and oxygen in the mass ratio of 3:8. This is in agreement with the Law of _____.

1. Conservation of Mass
2. Constant Proportion
3. Multiple Proportion
4. Reciprocal Proportion

Answer: 2

Explanation: The law of constant composition says that, in any particular chemical compound, all samples of that compound will be made up of the same elements in the same **proportion** or ratio. For example, any water molecule is always made up of two hydrogen atoms and one oxygen atom in a ratio.

7: The atomic mass of sodium is 23. The number of moles in 46g of sodium is _____.

1. 2
2. 1
3. 4
4. 0

Answer: 1

Explanation: The number of moles = Wt. of the substance/ Gram atomic weight

8: The molecular formula of potassium nitrate is _____.

1. KNO
2. KNO_3
3. KNO_2
4. KON

Answer: 2

Explanation: The valency of K is 1 and that of NO_3 is also one. Hence the formula KNO_3

9: Kalium is the Latin name of _____.

1. Potassium
2. Krypton
3. Calcium
4. Phosphorus

Answer: 1

Explanation: Potassium is a [chemical element](#) with symbol **K** (derived from [Neo-Latin](#) *kalium*)

10: The smallest particle of a substance that is capable of independent existence is

_____.

1. Atom
2. Molecule
3. Electron
4. Proton

Answer: 2

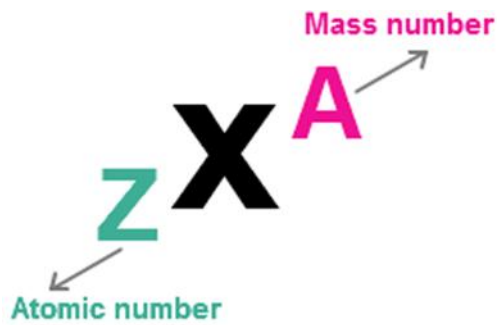
Explanation: As atoms do not exist independently, they exist as molecules.

11: In $^{16}_8\text{O}$, the number 16 stands for _____

1. Atomic number
2. Atomic mass
3. Atomic mass scale
4. Number of electrons

Answer: 2

Explanation:



12: An atom is 15 times than $\frac{1}{12}$ th of the mass of carbon atom (C-12 isotopes). The mass in a.m.u is _____

1. 1.25
2. 15
3. 14
4. 12

Answer: 2

Explanation:

1 a.m.u = $\frac{1}{12}$ mass of carbon atom.

So $15 \times \frac{1}{12}$ mass of carbon atom. = 15 amu

13: The molecular mass of ammonia is _____.

1. 17 grams
2. 31 grams
3. 20 grams
4. 25 grams

Answer: 1

Explanation: NH_3 = Ammonia

N=14 grams H=1 gram So NH_3 = 17 grams

14: Atomic mass of calcium is 40. The mass of 2.5 gram atoms of calcium is _____.

1. 40 g
2. 2.5 g
3. 100 g
4. 80 g

Answer: 3

Explanation: $2.5 \times 40 = 100$ g

15: The number of atoms in a molecule of the elementary substance is called _____.

1. Atomic number
2. Avogadro number
3. Atomic mass
4. Atomicity

Answer: 4

Explanation: Atomicity is the total number of [atoms](#) present in one [molecule](#) of an element or a substance

16: Avogadro number represents the number of atoms in _____.

1. 12 grams of ^{12}C
2. 320 grams of Sulphur
3. 32 grams of oxygen
4. 1 gram of ^{12}C

Answer: 1

Explanation: 12 grams of ^{12}C contains Avogadro number of atoms

17: The number of moles in 5 grams of calcium is _____.

1. 0.125 mole
2. 5 mole
3. 1.25 mole
4. 12.5 moles

Answer: 1

Explanation: Calcium Atomic Wt= 40g
Number of moles= $5/40 = 0.125$ mole

18: 2 molecules of nitrogen are represented by _____.

1. N
2. $2N_2$
3. N_2
4. 2N

Answer: 2

Explanation: 1 molecule of nitrogen= N_2
2 molecules of nitrogen= $2 N_2$

19: One mole of H_2O corresponds to

1. 22.4 litre at 1 atm and $25^{\circ}C$
2. 6.02×10^{23} atoms of hydrogen and 6.02×10^{23} atoms of oxygen
3. 18 g
4. 1 g

Answer: 3

Explanation: H_2O

Mass of 1 mole of H atom=2 g

Mass of 1 mole of O atom=16 g

20: The number of molecules in 4.25 g of ammonia is approximately

1. 1.0×10^{23}
2. 1.5×10^{23}
3. 2.0×10^{23}
4. 3.5×10^{23}

Answer: 2

Explanation: 17 g of ammonia = 6.02×10^{23} molecules

4.25 g of ammonia = $6.02/4 \times 10^{23}$ atoms = 1.5×10^{23} molecules