

Home Performance- Week 1Q1/ choose the correct answer: -

1- What is the mass of 2.52×10^{-3} mol of ammonium sulphate?

[H=1, N=14, O=16, S=32]

- a) 0.287 g b) 0.285 g c) 0.328 g d) 0.333 g

2- Which of the following has the same number of molecules as 11.2 L of methane (CH_4) gas at STP?

[H=1, N=14, C=12]

- a) 1 mole of nitrogen gas at STP
b) 3.01×10^{23} molecules of hydrogen gas
c) 4 g of methane gas
d) 17 gm of ammonia (NH_3) gas at STP

3- The number of sulphate ions in 17.1 gm of aluminum sulphate = -----

[Al=27, S=32, O=16]

- a) 3×10^{21} b) 1×10^{22} c) 3×10^{22} d) 9×10^{22}

4- The number of atoms in 0.25 mole of formaldehyde (HCHO) = -----

- a) Avogadro's number b) Half Avogadro's number
c) Quarter Avogadro's number d) Four times Avogadro's number

5- Which of the following represents the volume of 32 g of sulphur dioxide gas at STP?

[S=32, O=16]

- a) 22.4 L b) 11.2 L c) 5.6 L d) 44.8 L

6- The number of moles of atoms in half mole of nitrogen tetra oxide (N_2O_4) is ----- mole

- a) 3.01×10^{23} b) 3 c) 6.02×10^{23} d) 6

7- What is the molar mass of a gas if 1.5 L of the gas at STP has a mass of 3.0 g?

- a) 22.4 g/mol b) 44.8 g/mol c) 11.2 g/mol d) 2.0 g/mol

8- Which of the following is true for 1.0 mole of water (H_2O) and 32 of oxygen gas (O_2)?

- a) They have the same volume.
- b) They have the same mass.
- c) They contain the same number of molecules.
- d) They contain the same number of atoms.

9- If you have 1.5 moles of a solid compound, which of the following can you determine from this information alone?

- a) Its density
- b) Its volume at STP.
- c) Its molar mass.
- d) The number of particles (atoms or molecules) in the sample.

10- A balloon contains 2.0×10^{23} molecules of a gas at STP. If the mass of the gas is 9.296 g, what is this of the gas? [N=14 , O=16 , C=12 , H=1]

- a) Oxygen gas
- b) Nitrogen gas
- c) Methane gas
- d) Ammonia gas