

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

1- What is the mass of  $2.52 \times 10^{-3}$  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 ( $\text{CH}_4$ ) gas at STP?

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

- a) 1 mole of nitrogen gas at STP  
b)  $3.01 \times 10^{23}$  molecules of hydrogen gas  
c) 4 g of methane gas  
d) 17 gm of ammonia ( $\text{NH}_3$ ) gas at STP

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

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

- a)  $3 \times 10^{21}$       b)  $1 \times 10^{22}$       c)  $3 \times 10^{22}$       d)  $9 \times 10^{22}$

4- The number of atoms in 0.25 mole of formaldehyde ( $\text{HCHO}$ ) = -----

- 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 ( $\text{N}_2\text{O}_4$ ) is ----- mole

- a)  $3.01 \times 10^{23}$       b) 3      c)  $6.02 \times 10^{23}$       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 ( $\text{H}_2\text{O}$ ) and 32 of oxygen gas ( $\text{O}_2$ )?**

- 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  $2.0 \times 10^{23}$  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