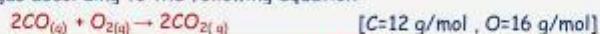


Home performance (week 2)Q1: Choose the correct answer:

1- At STP, calculate the volume of CO_2 gas produced by mixing 20 g of CO gas with an excess amount of oxygen gas according to the following equation:



a) 45 L b) 8 L c) 23 L d) 16 L

2- At $25^\circ C$ and 1 atm, a gas occupies a volume of 4L. How many moles are there?

a) 0.18 moles of gas molecules b) 0.93 moles of gas molecules
c) 0.17 moles of gas molecules d) 8.96 moles of gas molecules

3- How many grams of oxygen gas are necessary to react completely with 2.93×10^{21} atoms of magnesium to yield magnesium oxide? $[O=16 \text{ g/mol}, Mg=24 \text{ g/mol}]$

a) $2.68 \times 10^{-2} \text{ g}$ b) $6.18 \times 10^{-4} \text{ g}$ c) $1.56 \times 10^{-1} \text{ g}$ d) $7.78 \times 10^{-2} \text{ g}$

4- Propane (C_3H_8) burns completely in excess amount of oxygen (O_2) according to the following equation: $C_3H_{8(g)} + 5O_{2(g)} \rightarrow 3CO_{2(g)} + 4H_2O_{(l)}$

- If 11.0 grams of C_3H_8 is completely combusted at room temperature, then the volume of CO_2 gas produced is ----- $(C=12 \text{ g/mol}, H=1 \text{ g/mol})$

a) 30 cm³ b) 30 L c) 18 L d) 55 L

5- Phosphate radical is detected in its sodium salt by silver nitrate solution According to the following equation:



- If you start with a pure sample of the sodium Phosphate salt weighs 5 grams, calculate the mass of formed precipitate?

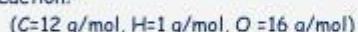


a) 12.77 g b) 12.32 g c) 1.95 g d) 5.00 g

6- Methane gas reacts with oxygen according to the following equation:



- If 60 g of oxygen gas is added to 20 gm of methane gas in a closed container, Calculate the total mass of gases and vapors at the end of reaction?



a) 100 g b) 46.25 g c) 5 g d) 80 g

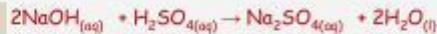
7- Balance the chemical equation for reduction of iron III oxide by carbon monoxide

, then calculate the volume of carbon dioxide gas evolved at 273 K and 1 atm from the reaction of 1.6 gm of iron III oxide with 1.68 g of carbon monoxide.



a) 0.672 b) 1.344 c) 0.224 d) 67.2

8- In the neutralization reaction between sodium hydroxide and sulphuric acid According to the equation: -



-If 80 gm of sodium hydroxide is added to 49 gm of sulfuric acid, then which of The following exists in water at the end of reaction?

- a) Sodium hydroxide and sodium sulphate
- b) Sulphuric acid and sodium sulphate
- c) Sodium hydroxide and sulphuric acid
- d) Sodium hydroxide , sodium sulphate and sulphuric acid

9- Ammonia gas (NH_3) is produced by the reaction of nitrogen (N_2) and Hydrogen (H_2)

-How many grams of nitrogen gas are required to prepare 72 liters of ammonia at STP?

(N=14 g/mol, H=1 g/mol)

- a) 35.99 g
- b) 33.60 g
- c) 42.00g
- d) 44.99 g

10- How many grams of Aluminum metal will be completely oxidized by 44.8L of oxygen at STP according to the following equation?



- a) 54 gm
- b) 108 gm
- c) 27 gm
- d) 72 gm