NORTH CAROLINA CHEMISTRY · UNIT 3 · 25 QUESTIONS

Stoichiometry and Solutions, 25-question test — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 One mole is an amount containing

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Question 1

One mole is an amount containing

A) one gram of a substance

B) the Avogadro number of particles

C) one liter of a substance

D) one atom of a substance

A one gram of a substance

B the Avogadro number of particles

C one liter of a substance

D one atom of a substance

A one gram of a substance

B the Avogadro number of particles

C one liter of a substance

D one atom of a substance

Understand It with Pulse

Flag a mistake

2 **Using whole number atomic masses (H = 1, O = 16), the molar mass of water, in grams per mole, is _____**

2 **Using whole number atomic masses (H = 1, O = 16), the molar mass of water, in grams per mole, is _____**

Question 2

Using whole number atomic masses (H = 1, O = 16), the molar mass of water, in grams per mole, is

____

ANSWER

Understand It with Pulse | Flag a mistake

3 **The number of moles in 36 g of water is _____**

3 **The number of moles in 36 g of water is _____**

Question 3

The number of moles in 36 g of water is ____

ANSWER

Understand It with Pulse | Flag a mistake

4 The Avogadro number is approximately

4 The Avogadro number is approximately

Question 4

The Avogadro number is approximately

A) 6.02×10^{23} B) 3.01×10^{23}

C) 1.20×10^{24} D) 6.02×10^{22}

A 6.02×10^{23}

B 3.01×10^{23}

C 1.20×10^{24}

D 6.02×10^{22}

A 6.02×10^{23}

B 3.01×10^{23}

C 1.20×10^{24}

D 6.02×10^{22}

Understand It with Pulse

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5 **The mass, in grams, of 2 mol of carbon dioxide is _____**

5 **The mass, in grams, of 2 mol of carbon dioxide is _____**

Question 5

The mass, in grams, of 2 mol of carbon dioxide is ____

ANSWER

Understand It with Pulse | Flag a mistake

6 **Molarity is defined as moles of solute per**

6 **Molarity is defined as moles of solute per**

Question 6

Molarity is defined as moles of solute per

A) gram of solution

B) liter of solvent

C) liter of solution

D) mole of solvent

A gram of solution

B liter of solvent

C liter of solution

D mole of solvent

A gram of solution

B liter of solvent

C liter of solution

D mole of solvent

Understand It with Pulse

Flag a mistake

7 **The molarity, in moles per liter, of a solution containing 1 mol of solute in 2 L is _____**

7 **The molarity, in moles per liter, of a solution containing 1 mol of solute in 2 L is _____**

Question 7

The molarity, in moles per liter, of a solution containing 1 mol of solute in 2 L is ____

ANSWER _____

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8 **The number of moles in 20 g of sodium hydroxide is ____**

8 **The number of moles in 20 g of sodium hydroxide is ____**

Question 8

The number of moles in 20 g of sodium hydroxide is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **In a chemical reaction, the reactant that runs out first is the**

9 **In a chemical reaction, the reactant that runs out first is the**

Question 9

In a chemical reaction, the reactant that runs out first is the

A) excess reactant

B) catalyst

C) product

D) limiting reactant

A excess reactant

B catalyst

C product

D limiting reactant

A excess reactant

B catalyst

C product

D limiting reactant

Understand It with Pulse

Flag a mistake

10 **In the reaction $2H_2 + O_2 \rightarrow 2H_2O$, the moles of water formed from 4 mol of hydrogen with excess oxygen is _____**

10 **In the reaction $2H_2 + O_2 \rightarrow 2H_2O$, the moles of water formed from 4 mol of hydrogen with excess oxygen is _____**

Question 10

In the reaction $2\,H_2 + O_2 \rightarrow 2\,H_2O$,

the moles of water formed from 4 mol of hydrogen with excess oxygen is ____

ANSWER

Understand It with Pulse | Flag a mistake

11 **In the reaction $N_2 + 3H_2 \rightarrow 2NH_3$, the moles of ammonia formed from 3 mol of hydrogen with excess nitrogen is _____**

11 **In the reaction $N_2 + 3H_2 \rightarrow 2NH_3$, the moles of ammonia formed from 3 mol of hydrogen with excess nitrogen is _____**

Question 11

In the reaction $N_2 + 3\,H_2 \rightarrow 2\,NH_3$,

the moles of ammonia formed from 3 mol of hydrogen with excess nitrogen is ____

ANSWER

Understand It with Pulse | Flag a mistake

12 Which solution is more concentrated

12 Which solution is more concentrated

Question 12

Which solution is more concentrated

A) more solute in the same volume of solution

B) less solute in the same volume of solution

C) more solvent with the same solute

D) the same solute in more water

A more solute in the same volume of solution

B less solute in the same volume of solution

C more solvent with the same solute

D the same solute in more water

A more solute in the same volume of solution

B less solute in the same volume of solution

C more solvent with the same solute

D the same solute in more water

Understand It with Pulse | Flag a mistake

13 **The mass, in grams, of 3 mol of water is _____**

13 **The mass, in grams, of 3 mol of water is _____**

Question 13

The mass, in grams, of 3 mol of water is ____

ANSWER

Understand It with Pulse | Flag a mistake

14 **The molarity, in moles per liter, of a solution containing 2 mol of solute in 0.5 L is _____**

14 **The molarity, in moles per liter, of a solution containing 2 mol of solute in 0.5 L is _____**

Question 14

The molarity, in moles per liter, of a solution containing 2 mol of solute in 0.5 L is ____

ANSWER

Understand It with Pulse | Flag a mistake

15 **Percent yield is calculated as**

15 **Percent yield is calculated as**

Question 15

Percent yield is calculated as

A) theoretical yield divided by actual yield, times 100

B) actual yield divided by theoretical yield, times 100

C) actual yield plus theoretical yield

D) theoretical yield minus actual yield

A theoretical yield ÷ actual yield, × 100

B actual yield ÷ theoretical yield, × 100

C actual yield + theoretical yield

D theoretical yield - actual yield

A theoretical yield ÷ actual yield, × 100

B actual yield ÷ theoretical yield, × 100

C actual yield + theoretical yield

D theoretical yield - actual yield

Understand It with Pulse | Flag a mistake

16 **The percent by mass of oxygen in carbon dioxide, to one decimal place, is _____**

16 **The percent by mass of oxygen in carbon dioxide, to one decimal place, is _____**

Question 16

The percent by mass of oxygen in carbon dioxide, to one decimal place, is ____

ANSWER

Understand It with Pulse | Flag a mistake

17 **A 100 mL sample of 2.0 M solution is diluted to 400 mL. The new molarity, in moles per liter, is _____**

17 **A 100 mL sample of 2.0 M solution is diluted to 400 mL. The new molarity, in moles per liter, is _____**

Question 17

A 100 mL sample of 2.0 M solution is diluted to 400 mL. The new molarity, in moles per liter, is ____

ANSWER

Understand It with Pulse | Flag a mistake

18 **An empirical formula gives the**

18 **An empirical formula gives the**

Question 18

An empirical formula gives the

A) exact number of atoms in a molecule

B) mass of one mole

C) simplest whole number ratio of atoms

D) shape of a molecule

A exact number of atoms in a molecule

B mass of one mole

C simplest whole number ratio of atoms

D shape of a molecule

A exact number of atoms in a molecule

B mass of one mole

C simplest whole number ratio of atoms

D shape of a molecule

Understand It with Pulse

Flag a mistake

19 **A compound contains 12 g of carbon (1 mol) and 2 g of hydrogen (2 mol). The number of hydrogen atoms per carbon atom in its empirical formula is _____**

19 **A compound contains 12 g of carbon (1 mol) and 2 g of hydrogen (2 mol). The number of hydrogen atoms per carbon atom in its empirical formula is _____**

Question 19

A compound contains 12 g of carbon (1 mol) and 2 g of hydrogen (2 mol). The number of hydrogen atoms per carbon atom in its empirical formula is ____

ANSWER

Understand It with Pulse | Flag a mistake

20 **In salt water, the salt is the**

20 **In salt water, the salt is the**

Question 20

In salt water, the salt is the

A) solute B) solvent

C) solution D) precipitate

A solute

B solvent

C solution

D precipitate

A solute

B solvent

C solution

D precipitate

Understand It with Pulse

Flag a mistake

21 **At standard temperature and pressure, the volume, in liters, of 1 mol of hydrogen gas is _____**

21 **At standard temperature and pressure, the volume, in liters, of 1 mol of hydrogen gas is _____**

Question 21

At standard temperature and pressure, the volume, in liters, of 1 mol of hydrogen gas is ____

ANSWER

Understand It with Pulse | Flag a mistake

22 **In the reaction $2Mg + O_2 \rightarrow 2MgO$, the mass, in grams, of magnesium oxide formed from 2 mol of magnesium is _____**

22 **In the reaction $2Mg + O_2 \rightarrow 2MgO$, the mass, in grams, of magnesium oxide formed from 2 mol of magnesium is _____**

Question 22

In the reaction $2\ Mg + O_2 \rightarrow 2\ MgO$,

the mass, in grams, of magnesium oxide formed from 2 mol of magnesium is ____

ANSWER

Understand It with Pulse | Flag a mistake

23 A saturated solution at a given temperature

23 A saturated solution at a given temperature

Question 23

A saturated solution at a given temperature

A) contains no solute

B) can dissolve unlimited solute

C) contains only solvent

D) cannot dissolve more solute at that temperature

A contains no solute

B can dissolve unlimited solute

C contains only solvent

D cannot dissolve more solute at that temperature

A contains no solute

B can dissolve unlimited solute

C contains only solvent

D cannot dissolve more solute at that temperature

Understand It with Pulse

Flag a mistake

24 **The number of moles in 90 g of glucose, $C_6H_{12}O_6$, is _____**

24 **The number of moles in 90 g of glucose, $C_6H_{12}O_6$, is _____**

Question 24

The number of moles in 90 g of glucose, $C_6H_{12}O_6$, is ____

ANSWER

Understand It with Pulse | Flag a mistake

25 **In the reaction $2H_2 + O_2 \rightarrow 2H_2O$, with 4 mol of hydrogen and 1 mol of oxygen, the moles of water formed is _____**

25 **In the reaction $2H_2 + O_2 \rightarrow 2H_2O$, with 4 mol of hydrogen and 1 mol of oxygen, the moles of water formed is _____**

Question 25

In the reaction $2H_2 + O_2 \rightarrow 2H_2O$,

with 4 mol of hydrogen and 1 mol of oxygen, the moles of water formed is ____

ANSWER

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ANSWER KEY

1.	B	**10.**	4	**19.**	2
2.	18	**11.**	2	**20.**	A
3.	2	**12.**	A	**21.**	22.4
4.	A	**13.**	54	**22.**	80
5.	88	**14.**	4	**23.**	D
6.	C	**15.**	B	**24.**	0.5
7.	0.5	**16.**	72.7	**25.**	2
8.	0.5	**17.**	0.5		
9.	D	**18.**	C		

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