BRITISH COLUMBIA CHEMISTRY 11 (MCH--11) · UNIT B · 25 QUESTIONS

The Mole — 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 of any substance contains about**

- **A** 6.02×10^{23} particles
- **B** 6.02×10^{22} particles
- **C** 6.02×10^{24} particles
- **D** 6.02×10^{20} particles

Understand It with Pulse | Flag a mistake

2 **The molar mass of water, H_2O, is**



A 16 g

B 18 g

C 20 g

D 34 g

Understand It with Pulse | Flag a mistake

3 **The molar mass of carbon dioxide, CO_2, is in grams per mole, _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **Sodium has molar mass 23 g per mole. The amount in 46 g of sodium, in moles, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **Carbon dioxide has molar mass 44 g per mole. The mass of 3 moles of carbon dioxide, in grams, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **Carbon dioxide has molar mass 44 g per mole. The amount in 88 g of carbon dioxide, in moles, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Magnesium has molar mass 24 g per mole. The amount in 48 g of magnesium, in moles, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **Sodium chloride has molar mass 58.5 g per mole. The mass of 2 moles of sodium chloride, in grams, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

9 **The number of atoms in 2 moles of iron is about**

- **A** 6.02×10^{23}
- **B** 1.20×10^{24}
- **C** 3.01×10^{23}
- **D** 2.41×10^{24}

Understand It with Pulse | Flag a mistake

10 **The number of molecules in 0.5 mole of water is about**

- **A** 6.02×10^{23}
- **B** 1.20×10^{24}
- **C** 3.01×10^{23}
- **D** 1.51×10^{23}

Understand It with Pulse | Flag a mistake

11 One mole of oxygen molecules, O_2, contains this many moles of oxygen atoms

- A 1
- B 2
- C 3
- D 4

Understand It with Pulse | Flag a mistake

12 In carbon dioxide, CO_2, the percent by mass of oxygen is about

- A 27.3
- B 36.4
- C 72.7
- D 81.8

Understand It with Pulse | Flag a mistake

13 **In ammonia, NH_3, the percent by mass of nitrogen is about**

A 17.6

B 41.2

C 58.8

D 82.4

Understand It with Pulse | Flag a mistake

14 **In water, H_2O, the percent by mass of hydrogen is about**



A 5.6

B 11.1

C 22.2

D 88.9

Understand It with Pulse | Flag a mistake

15 **A compound contains 12 g of carbon, 2 g of hydrogen and 16 g of oxygen. Its empirical formula is**



A CH_2O

B C_2H_2O

C CHO_2

D CH_4O

Understand It with Pulse | Flag a mistake

16 **A compound is 75 percent carbon and 25 percent hydrogen by mass. Its empirical formula is**

- A CH_2
- B CH_3
- C CH_4
- D C_2H_4

Understand It with Pulse | Flag a mistake

17 **A compound has empirical formula CH_2O and molar mass 180 g per mole. Its molecular formula is**

- A $C_6H_{12}O_6$
- B $C_3H_6O_3$
- C $C_2H_4O_2$
- D CH_2O

Understand It with Pulse | Flag a mistake

18 **A compound has empirical formula CH and molar mass 78 g per mole. Its molecular formula is**

A C_2H_2

B C_3H_3

C C_6H_6

D C_8H_8

Understand It with Pulse | Flag a mistake

19 **The molar mass of calcium carbonate, $CaCO_3$, is**



A 84 g

B 100 g

C 116 g

D 40 g

Understand It with Pulse | Flag a mistake

20 **Calcium carbonate has molar mass 100 g per mole. The amount in 25 g of calcium carbonate, in moles, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **The molar mass of ammonia, NH_3, is 17 g per mole. The mass of 4 moles of ammonia, in grams, is ____**

ANSWER _____

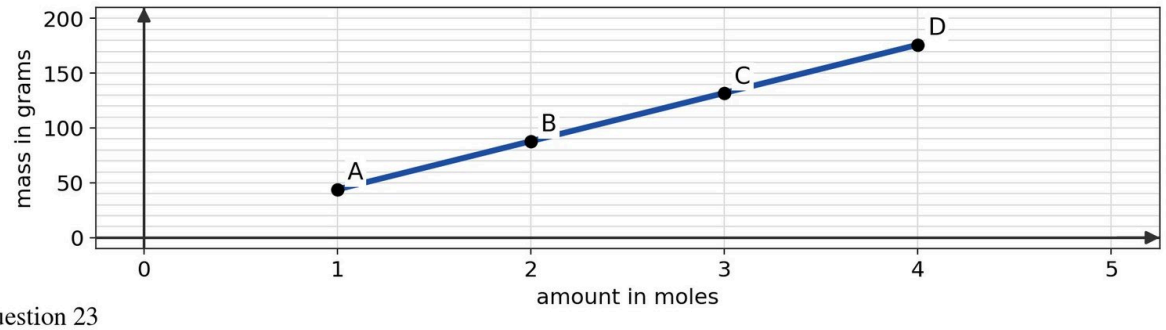
Understand It with Pulse | Flag a mistake

22 **The molar mass of magnesium oxide, MgO, is 40 g per mole. The amount in 120 g of magnesium oxide, in moles, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **The graph shows mass against amount for carbon dioxide. The mass at 2 moles, in grams, is _____**



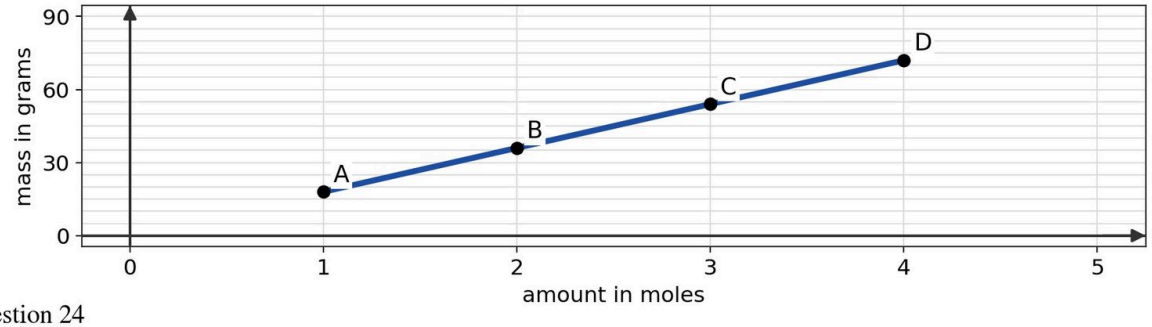
Question 23

The graph shows mass against amount for carbon dioxide. The mass at 2 moles, in grams, is ____

ANSWER

Understand It with Pulse | Flag a mistake

24 **The graph shows mass against amount for water. The mass at 3 moles, in grams, is _____**



Question 24

The graph shows mass against amount for water. The mass at 3 moles, in grams, is ____

ANSWER

Understand It with Pulse | Flag a mistake

25 **A sample contains 2 moles of methane, CH_4. The amount of hydrogen atoms in it, in moles, is**

A 2

B 4

C 8

D 6

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	C	**19.**	B
2.	B	**11.**	B	**20.**	0.25
3.	44	**12.**	C	**21.**	68
4.	2	**13.**	D	**22.**	3
5.	132	**14.**	B	**23.**	88
6.	2	**15.**	A	**24.**	54
7.	2	**16.**	C	**25.**	C
8.	117	**17.**	A		
9.	B	**18.**	C		

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