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

Chemical Reactions and Stoichiometry — 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 **Which equation is balanced**

- **A** $H_2 + O_2 \rightarrow H_2O$
- **B** $2H_2 + O_2 \rightarrow 2H_2O$
- **C** $H_2 + O_2 \rightarrow 2H_2O$
- **D** $2H_2 + 2O_2 \rightarrow 2H_2O$

Understand It with Pulse | Flag a mistake

2 **In the balanced equation $2H_2+O_2 \rightarrow 2H_2O$, the sum of all coefficients is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **The balanced equation for the combustion of propane is**



A $C_3H_8+4O_2 \rightarrow 3CO_2+4H_2O$

B $C_3H_8+5O_2 \rightarrow 3CO_2+3H_2O$

C $C_3H_8+5O_2 \rightarrow 3CO_2+4H_2O$

D $C_3H_8+3O_2 \rightarrow 3CO_2+4H_2O$

Understand It with Pulse | Flag a mistake

4 **In the balanced equation for propane combustion, the sum of all coefficients is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **Which equation is a balanced reaction of iron oxide with carbon monoxide**

A $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

B $Fe_2O_3 + CO \rightarrow 2Fe + CO_2$

C $Fe_2O_3 + 3CO \rightarrow Fe + 3CO_2$

D $Fe_2O_3 + 2CO \rightarrow 2Fe + 2CO_2$

Understand It with Pulse | Flag a mistake

6 **Which aluminium chloride equation is balanced**

A $2Al + 3Cl_2 \rightarrow 2AlCl_3$

B $Al + Cl_2 \rightarrow AlCl_3$

C $2Al + Cl_2 \rightarrow 2AlCl_3$

D $Al + 3Cl_2 \rightarrow AlCl_3$

Understand It with Pulse | Flag a mistake

7 **When magnesium and oxygen combine to form magnesium oxide, the reaction type is**



A synthesis

B decomposition

C combustion

D double replacement

Understand It with Pulse | Flag a mistake

8 **When calcium carbonate breaks down into calcium oxide and carbon dioxide, the reaction type is**

- A synthesis
- B decomposition
- C single replacement
- D combustion

Understand It with Pulse | Flag a mistake

9 **When zinc reacts with hydrochloric acid to form zinc chloride and hydrogen, the reaction type is**

- A double replacement
- B synthesis
- C single replacement
- D decomposition

Understand It with Pulse | Flag a mistake

10 **When silver nitrate reacts with sodium chloride to form silver chloride and sodium nitrate, the type is**

A synthesis

B combustion

C decomposition

D double replacement

Understand It with Pulse | Flag a mistake

11 **When methane burns in oxygen to form carbon dioxide and water, the reaction type is**



A combustion

B synthesis

C decomposition

D single replacement

Understand It with Pulse | Flag a mistake

12 **In a closed container, 10 g of reactant A reacts with 15 g of reactant B to form one product. The mass of product, in grams, is ____**

ANSWER

Understand It with Pulse | Flag a mistake

13 **$2H_2 + O_2 \rightarrow 2H_2O$.**
The amount of water formed from 4 moles of hydrogen, in moles, is ____



ANSWER

Understand It with Pulse | Flag a mistake

14 **$2Mg + O_2 \rightarrow 2MgO$.**
The mass of magnesium oxide formed from 48 g of magnesium, in grams, is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **$2H_2 + O_2 \rightarrow 2H_2O$.**
With 10 moles of hydrogen and 3 moles of oxygen, the limiting reactant is

A hydrogen

B oxygen

C water

D neither reactant

Understand It with Pulse | Flag a mistake

16 **$2H_2 + O_2 \rightarrow 2H_2O$.**
With 10 moles of hydrogen and 3 moles of oxygen, the amount of water formed, in moles, is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **$2Mg + O_2 \rightarrow 2MgO$.**
With 24 g of magnesium and 32 g of oxygen, the mass of magnesium oxide formed, in grams, is _____

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A reaction has a theoretical yield of 50 g and an actual yield of 40 g. The percent yield is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

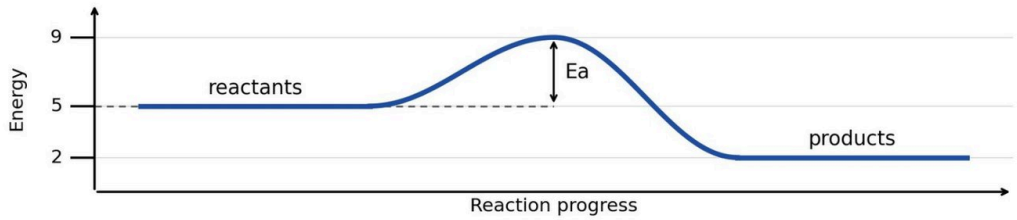
19 **A reaction has a theoretical yield of 20 g and an actual yield of 17 g. The percent yield is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **The diagram shows the energy profile of a reaction. Reactants are at 5, the peak is at 9, and products are at 2. The activation energy, in the diagram units, is ____**

20 **The diagram shows the energy profile of a reaction. Reactants are at 5, the peak is at 9, and products are at 2. The activation energy, in the diagram units, is ____**



Question 20

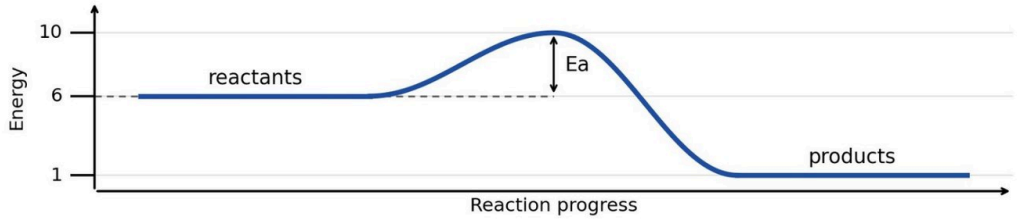
The diagram shows the energy profile of a reaction. Reactants are at 5, the peak is at 9, and products are at 2. The activation energy, in the diagram units, is ____

ANSWER

Understand It with Pulse | Flag a mistake

21 **The diagram shows the energy profile of a reaction. Reactants are at 6, the peak is at 10, and products are at 1. The energy released, in the diagram units, is ____**

21 **The diagram shows the energy profile of a reaction. Reactants are at 6, the peak is at 10, and products are at 1. The energy released, in the diagram units, is ____**



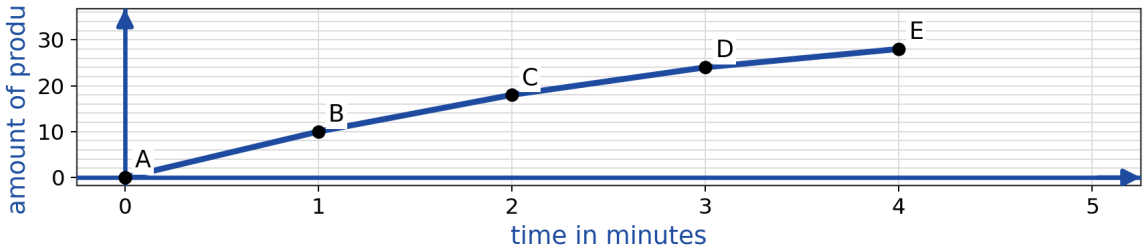
Question 21

The diagram shows the energy profile of a reaction. Reactants are at 6, the peak is at 10, and products are at 1. The energy released, in the diagram units, is ____

ANSWER

Understand It with Pulse | Flag a mistake

22 **The graph shows the amount of product formed during a reaction. The amount at 3 minutes, in the graph units, is ____**



ANSWER

Understand It with Pulse | Flag a mistake

23 **Which equation is a balanced double replacement reaction**



A $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

B $AgNO_3 + NaCl \rightarrow AgCl_2 + NaNO_3$

C $2AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

D $AgNO_3 + 2NaCl \rightarrow AgCl + 2NaNO_3$

Understand It with Pulse | Flag a mistake

24 **Which equation is a balanced decomposition reaction**

- **A** $2H_2O_2 \rightarrow 2H_2O + O_2$
- **B** $H_2O_2 \rightarrow H_2O + O_2$
- **C** $H_2O_2 \rightarrow 2H_2O + O_2$
- **D** $2H_2O_2 \rightarrow H_2O + O_2$

Understand It with Pulse | Flag a mistake

25 **A synthesis reaction is one in which**

- **A** two or more reactants combine to form one product
- **B** one compound breaks into simpler substances
- **C** an acid and a base form a salt
- **D** electrons move through a wire

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. 5
3. C
4. 13
5. A
6. A
7. A
8. B
9. C
10. D
11. A
12. 25
13. 4
14. 80
15. B
16. 6
17. 40
18. 80
19. 85
20. 4
21. 5
22. 24
23. A
24. A
25. A

© 2026 Brett Robbins. All Rights Reserved.