ENGLAND GCSE CHEMISTRY AQA HIGHER · UNIT 3 · 25 QUESTIONS

# Quantitative Chemistry — 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 so it can be fixed.

**1** **Lemons taste sour. What does sour taste show?**

- A an alkali is present
- B a metal is present
- C an acid is present
- D a salt is present

Understand It with Pulse | Flag a mistake

**2** **A thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 0
- B 10
- C 32
- D 100

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3 **Hardcover books are dropped. What happens to their speed as they fall?**

A it decreases

B it increases

C it stays the same

D it becomes zero

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4 **A calculator is switched on. What does the battery transfer energy to?**

A the screen only

B the case

C the circuits

D the buttons only

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5 **A chocolate cake is made from flour, sugar and eggs. Which ingredient provides protein?**

- A sugar
- B eggs
- C water
- D flour

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6 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

- A S
- B Si
- C Ag
- D Sv

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**7** **In a reaction, 10 g of A reacts with 6 g of B. What mass of product is made?**

- A 16 g
- B 4 g
- C 6 g
- D 10 g

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**8** **What is the relative formula mass of hydrogen chloride, HCl?**

- A 73
- B 36.5
- C 44.5
- D 32.5

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**9** **The maximum possible mass of product is 100 g. A student makes 60 g. What is the percentage yield?**

- A 70%
- B 50%
- C 120%
- D 60%

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**10** **What is the relative formula mass of water, $H_2O$?**

- A 10
- B 20
- C 16
- D 18

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11 **How many moles of gas occupy 96 cubic decimetres at room temperature and pressure?**

A 4

B 8

C 5

D 3

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12 **How many moles are there in 20 g of a substance with a relative formula mass of 20?**

A 2

B 1

C 3

D 0.5

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13 **What is the mass of 2 moles of a substance with a relative formula mass of 20?**

- A 20 g
- B 80 g
- C 50 g
- D 40 g

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14 **A solution contains 2 moles of solute in 1 cubic decimetres of solution. What is its concentration in moles per cubic decimetre?**

- A 6 mol/dm³
- B 4 mol/dm³
- C 2 mol/dm³
- D 1 mol/dm³

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15 **A reaction makes 30 g of useful product from 50 g of reactants in total. What is the atom economy?**

- A 60%
- B 30%
- C 120%
- D 180%

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16 **Why does the limiting reactant control how much product is made?**

- A the reaction stops when it runs out
- B the product stops the reaction happening
- C the catalyst is used up with it
- D the other reactants evaporate away

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**17** **What is the relative formula mass of potassium chloride, KCl?**

- A 70.5
- B 149
- C 82.5
- D 74.5

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**18** **The maximum possible mass of product is 100 g. A student makes 50 g. What is the percentage yield?**

- A 100%
- B 60%
- C 50%
- D 40%

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**19** **What is the relative formula mass of sulfuric acid, $H_2SO_4$?**

- A 66
- B 114
- C 98
- D 82

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**20** **A reaction should make 50 g of product but makes 40 g. What is the percentage yield?**

- A 125%
- B 80%
- C 10%
- D 90%

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**21** **What volume does 2 moles of carbon dioxide occupy at room temperature and pressure?**

- **A** 36 $dm^3$
- **B** 48 $dm^3$
- **C** 60 $dm^3$
- **D** 96 $dm^3$

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**22** **How many moles are there in 12 g of a substance with a relative formula mass of 20?**

- **A** 1.8
- **B** 1.2
- **C** 0.6
- **D** 0.3

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**23** **What is the mass of 5 moles of a substance with a relative formula mass of 58.5?**

- **A** 302.5 g
- **B** 292.5 g
- **C** 146.25 g
- **D** 585 g

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**24** **A solution contains 3 moles of solute in 2 cubic decimetres of solution. What is its concentration in moles per cubic decimetre?**

- **A** 3 mol/dm³
- **B** 1.5 mol/dm³
- **C** 0.75 mol/dm³
- **D** 4.5 mol/dm³

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25

**A reaction makes 60 g of useful product from 120 g of reactants in total. What is the atom economy?**

A 150%

B 100%

C 25%

D 50%

Understand It with Pulse

Flag a mistake

# ANSWER KEY

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

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