NOVA SCOTIA CHEMISTRY 12 · UNIT C · 25 QUESTIONS

Solutions, Kinetics and Equilibrium — 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 **2 moles of solute are dissolved to make 0.5 litres of solution. The concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **3 moles of solute are dissolved to make 1.5 litres of solution. The concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **1 moles of solute are dissolved to make 0.25 litres of solution. The concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **200 millilitres of 0.5 moles per litre solution are diluted to 500 millilitres. The new concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **100 millilitres of 1.0 moles per litre solution are diluted to 250 millilitres. The new concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **50 millilitres of 2.0 moles per litre solution are diluted to 200 millilitres. The new concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **The concentration of a reactant falls by 0.4 moles per litre in 20 seconds. The average rate, in moles per litre per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **The concentration of a reactant falls by 0.9 moles per litre in 30 seconds. The average rate, in moles per litre per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **The concentration of a reactant falls by 1.0 moles per litre in 25 seconds. The average rate, in moles per litre per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **A salt has solubility 36 grams per 100 millilitres. The mass that dissolves in 250 millilitres is, in grams**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **A salt has solubility 20 grams per 100 millilitres. The mass that dissolves in 150 millilitres is, in grams**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **A salt has solubility 40 grams per 100 millilitres. The mass that dissolves in 50 millilitres is, in grams**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **A salt AB has solubility 0.01 moles per litre. Its solubility product is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **A salt AB has solubility 0.02 moles per litre. Its solubility product is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A salt AB has solubility 0.1 moles per litre. Its solubility product is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A solution contains 10 grams of solute in 200 grams of solution. The percent by mass is**

ANSWER

Understand It with Pulse | Flag a mistake

17 **A solution contains 25 grams of solute in 500 grams of solution. The percent by mass is**

ANSWER

Understand It with Pulse | Flag a mistake

18 **A solution contains 30 grams of solute in 150 grams of solution. The percent by mass is**

ANSWER

Understand It with Pulse | Flag a mistake

19 **Increasing temperature usually increases reaction rate because particles**

A collide more often with more energy

B move slower

C form bonds only

D decrease in number

Understand It with Pulse | Flag a mistake

20 **A catalyst increases reaction rate without being**

A present at the start

B used up in the overall reaction

C changed at all in steps

D heated

Understand It with Pulse | Flag a mistake

21 **For a first order reaction, doubling the reactant concentration**

A quadruples the rate

B halves the rate

C doubles the rate

D leaves the rate unchanged

Understand It with Pulse | Flag a mistake

22 **The rate of a reaction is fastest at the**

A end when products peak

B middle always

C start when temperature is lowest

D start when concentrations are highest

Understand It with Pulse | Flag a mistake

23 **A saturated solution contains the maximum solute that dissolves at that**

A temperature

B pressure only

C volume only

D time

Understand It with Pulse | Flag a mistake

24 **Diluting a solution decreases its**

A volume

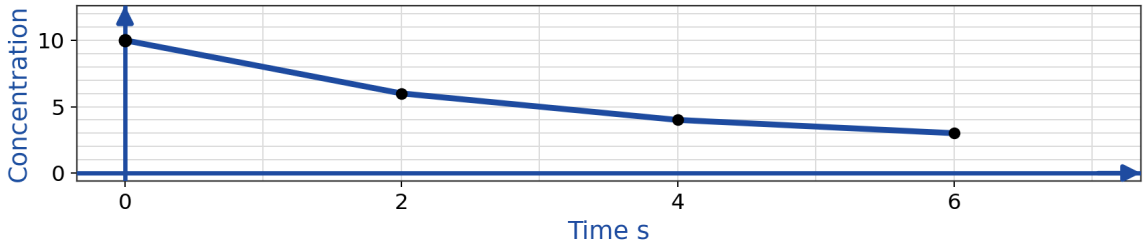
B concentration

C solute mass

D temperature

Understand It with Pulse | Flag a mistake

25 **The graph shows concentration against time for a reactant. The concentration at 2 seconds, in moles per litre, is**



A 10

B 4

C 6

D 3

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	4	**10.**	90	**19.**	A
2.	2	**11.**	30	**20.**	B
3.	4	**12.**	20	**21.**	C
4.	0.2	**13.**	0.0001	**22.**	D
5.	0.4	**14.**	0.0004	**23.**	A
6.	0.5	**15.**	0.01	**24.**	B
7.	0.02	**16.**	5	**25.**	C
8.	0.03	**17.**	5		
9.	0.04	**18.**	20		

© 2026 Brett Robbins. All Rights Reserved.