NOVA SCOTIA ADVANCED 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 500 millilitres of solution. The concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **1 moles of solute are dissolved to make 250 millilitres of solution. The concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **3 moles of solute are dissolved to make 500 millilitres of solution. The concentration, in moles per litre, is**

ANSWER _____

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4 **What volume of 2.0 moles per litre stock is needed to make 500 millilitres of 0.5 moles per litre solution, in millilitres**

ANSWER _____

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5 **What volume of 2.0 moles per litre stock is needed to make 250 millilitres of 1.0 moles per litre solution, in millilitres**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **What volume of 2.0 moles per litre stock is needed to make 1000 millilitres of 0.2 moles per litre solution, in millilitres**

ANSWER _____

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7 **A reactant concentration falls from 1.0 to 0.6 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 **A reactant concentration falls from 0.8 to 0.2 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 **A reactant concentration falls from 1.2 to 0.6 moles per litre in 20 seconds. The average rate, in moles per litre per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **90 grams dissolve in 250 millilitres at saturation. The solubility, in grams per 100 millilitres, is**

ANSWER _____

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11 **30 grams dissolve in 150 millilitres at saturation. The solubility, in grams per 100 millilitres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **60 grams dissolve in 200 millilitres at saturation. The solubility, in grams per 100 millilitres, is**

ANSWER

Understand It with Pulse | Flag a mistake

13 **A salt A_2B has solubility 0.5 moles per litre. Its solubility product is**

ANSWER

Understand It with Pulse | Flag a mistake

14 **A salt A_2B has solubility 0.4 moles per litre. Its solubility product is**

ANSWER

Understand It with Pulse | Flag a mistake

15 **A salt A_2B has solubility 0.3 moles per litre. Its solubility product is**

ANSWER

Understand It with Pulse | Flag a mistake

16 **A sample has 5 milligrams of solute in 1 kilograms of water. The concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A sample has 20 milligrams of solute in 2 kilograms of water. The concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A sample has 15 milligrams of solute in 3 kilograms of water. The concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **For a second order reaction, doubling the reactant concentration**

A quadruples the rate

B doubles the rate

C halves the rate

D leaves the rate unchanged

Understand It with Pulse | Flag a mistake

20 **The rate constant changes when the**

A concentration changes

B temperature changes

C pressure only

D mass changes

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21 **An energy profile with a high peak indicates a**

A fast reaction

B exothermic reaction only

C slow reaction with high activation energy

D catalysed reaction

Understand It with Pulse | Flag a mistake

22 **The order of a reaction is found from**

A the balanced equation only

B the molar masses

C the temperature only

D experimental rate data

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23 **A heterogeneous catalyst is in a different phase from the**

A reactants

B products only

C solvent only

D container

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24 **At equilibrium the forward and reverse rates are**

A zero

B equal

C maximum

D opposite in sign only

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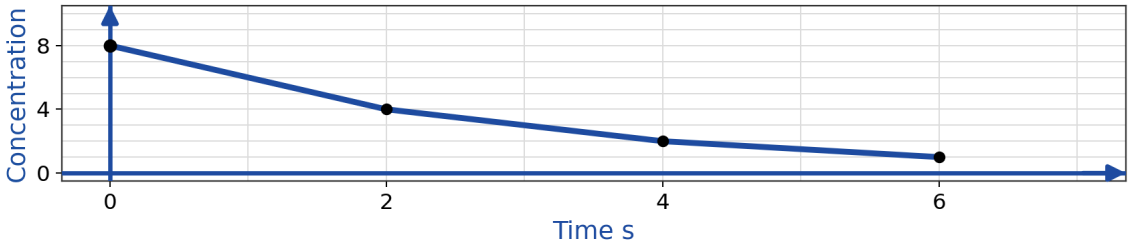
25 **The graph shows concentration against time for a reactant. The concentration at 4 seconds, in moles per litre, is**



A 8

B 4

C 2

D 1

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ANSWER KEY

1.	4	**10.**	36	**19.**	A
2.	4	**11.**	20	**20.**	B
3.	6	**12.**	30	**21.**	C
4.	125	**13.**	0.5	**22.**	D
5.	125	**14.**	0.256	**23.**	A
6.	100	**15.**	0.108	**24.**	B
7.	0.02	**16.**	5	**25.**	C
8.	0.02	**17.**	10		
9.	0.03	**18.**	5		

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