QUEBEC CHEMISTRY, SECONDARY V · UNIT D

Chemical Equilibrium — Practice Test

Quebec Chemistry, Secondary V • 25 questions

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 **At equilibrium a reaction A gives 2 B has concentrations A 0.5 and B 1.0 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **At equilibrium a reaction A plus B gives C plus D has concentrations A 0.5, B 0.5, C 1.0, D 1.0 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **For a reaction with equilibrium constant 4, equilibrium concentrations of A and B are each 0.5 moles per litre and C and D are equal. Each of C and D, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A catalyst speeds up both forward and reverse reactions equally, so it does not change the equilibrium**

- A temperature
- B position
- C pressure
- D colour

Understand It with Pulse | Flag a mistake

5 **A large equilibrium constant means the equilibrium lies far to the**

- A left
- B centre
- C right
- D bottom

Understand It with Pulse | Flag a mistake

6 **A reaction at equilibrium has 3 moles of reactants and 2 moles of products. The total amount, in moles, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A reaction vessel holds 8 moles at equilibrium: 5 moles of reactants and the rest products. Products, in moles, are**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A small equilibrium constant means the equilibrium lies far to the**

A right

B centre

C top

D left

Understand It with Pulse | Flag a mistake

9 **A system at dynamic equilibrium has forward and reverse rates that are**

A equal

B both zero

C unrelated

D maximal

Understand It with Pulse | Flag a mistake

10 **A system at equilibrium is disturbed and 2 moles of product convert back to reactants. If products fall from 6 moles to 4 moles, the change in product amount, in moles, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **A system has equilibrium constant 0.001. The equilibrium lies far to the left, so products are much smaller than reactants. If reactants total 1000 moles and products are 1 mole, the ratio of products to reactants is**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **Adding more reactant to an equilibrium system shifts it toward the**

A products

B reactants

C catalyst

D solids

Understand It with Pulse | Flag a mistake

13 **An equilibrium mixture contains 4 moles of nitrogen, 12 moles of hydrogen and 2 moles of ammonia. The total amount, in moles, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **An equilibrium mixture has 20 moles total and products are 12 moles. Reactants, in moles, are**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **An equilibrium mixture has 10 moles total. Reactants are 4 moles. Products, in moles, are**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **At equilibrium, a closed system is required so that reactants and products cannot**

A react

B escape

C mix

D cool

Understand It with Pulse | Flag a mistake

17 **At equilibrium the concentrations of reactants and products stay**

A zero

B constant

C equal always

D rising

Understand It with Pulse | Flag a mistake

18 **Dynamic equilibrium means particles keep reacting but concentrations do not**

A exist

B matter

C change

D move

Understand It with Pulse | Flag a mistake

19 **For an exothermic reaction, lowering the temperature favours the**

A products

B reactants

C catalyst

D solids

Understand It with Pulse | Flag a mistake

20 **For the Haber process 1 mole of nitrogen reacts with 3 moles of hydrogen to make 2 moles of ammonia. With 2 moles of nitrogen, ammonia made, in moles, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **At equilibrium a reaction A gives 2 B has concentrations A 0.25 and B 1.0 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **At equilibrium a reaction A plus B gives C plus D has concentrations A 0.2, B 0.5, C 0.4, D 0.5 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **For a reaction with equilibrium constant 9, equilibrium concentrations of A and B are each 0.5 moles per litre and C and D are equal. Each of C and D, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **At equilibrium a reaction A gives 2 B has concentrations A 1.0 and B 2.0 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **At equilibrium a reaction A plus B gives C plus D has concentrations A 0.4, B 0.4, C 0.8, D 0.8 moles per litre. The equilibrium constant Kc is**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	2	**10.**	2	**19.**	A
2.	4	**11.**	0.001	**20.**	4
3.	1	**12.**	A	**21.**	4
4.	B	**13.**	18	**22.**	2
5.	C	**14.**	8	**23.**	1.5
6.	5	**15.**	6	**24.**	4
7.	3	**16.**	B	**25.**	4
8.	D	**17.**	B		
9.	A	**18.**	C		

© 2026 Brett Robbins. All Rights Reserved.