SASKATCHEWAN CHEMISTRY 30 · UNIT C · 25 QUESTIONS

Chemical Equilibrium and Solubility — 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 **A state where forward and reverse reaction rates are equal is called**

- A equilibrium
- B Le Chatelier principle
- C solubility
- D saturated solution

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2 **At equilibrium, the concentrations of reactants and products**

A become equal

B stay constant

C become zero

D keep rising

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3 **At equilibrium, the concentration of a product is 0.8 moles per litre and of a reactant is 0.4 moles per litre for a reaction with equal coefficients. The equilibrium constant is ____**

ANSWER _____

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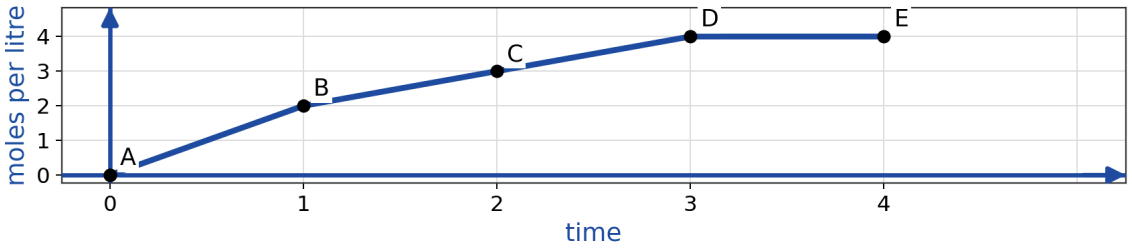
4 **The graph shows concentration over time reaching equilibrium. The product concentration at equilibrium, in moles per litre, is _____**



ANSWER

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5 **A ratio of product and reactant concentrations at equilibrium is called**

A solubility

B saturated solution

C equilibrium constant

D Ksp

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6 **Adding more reactant to a system at equilibrium shifts it toward**

- A reactants
- B neither side
- C a catalyst
- D products

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7 **At equilibrium, the concentration of a product is 1.2 moles per litre and of a reactant is 0.6 moles per litre for a reaction with equal coefficients. The equilibrium constant is ____**

ANSWER _____

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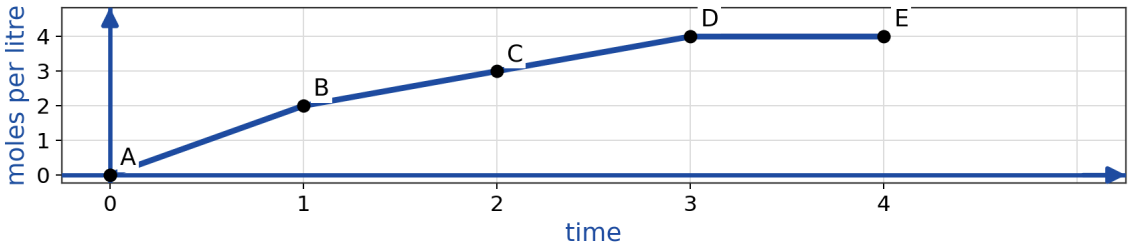
8 **The graph shows concentrations levelling off. Levelling off shows the system has reached**



- **A** equilibrium
- **B** completion
- **C** a catalyst
- **D** precipitation

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9 **A system at equilibrium shifts to reduce a stress applied to it is called**

- **A** saturated solution
- **B** Le Chatelier principle
- **C** Ksp
- **D** stress

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10 **A catalyst changes equilibrium by**

- A shifting to products only
- B shifting to reactants only
- C speeding both directions equally, so it does not shift the position
- D changing the constant

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11 **At equilibrium, the concentration of a product is 0.5 moles per litre and of a reactant is 0.25 moles per litre for a reaction with equal coefficients. The equilibrium constant is ____**

ANSWER _____

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12 **The largest amount of a solute that dissolves in a solvent at a given temperature is called**

A Ksp

B stress

C dynamic equilibrium

D solubility

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13 **Increasing temperature shifts an exothermic reaction toward**

A reactants

B products

C neither side

D a precipitate only

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14 **For the reaction $N_2 + 3H_2$ gives $2NH_3$, increasing the pressure will shift equilibrium toward the**

- A side with fewer gas molecules, the products
- B side with more gas molecules, the reactants
- C neither side
- D the catalyst

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15 **A solution holding the largest amount of dissolved solute at a given temperature is called**

- A stress
- B saturated solution
- C dynamic equilibrium
- D precipitate

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16 **A saturated solution**

A can dissolve unlimited solute

B has no solute

C cannot dissolve more solute at that temperature

D is always hot

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17 **The equilibrium constant K is large. This means that at equilibrium the mixture contains mostly**

A reactants

B products

C equal amounts

D no chemicals

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18 **The solubility product constant for a slightly soluble salt is called**

A dynamic equilibrium

B precipitate

C common ion effect

D Ksp

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19 **Adding a common ion to a saturated salt solution usually**

A decreases solubility

B increases solubility

C does nothing

D melts the salt

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20 **A catalyst is added to a system at equilibrium. The catalyst will**

- A shift the equilibrium to the products
- B shift the equilibrium to the reactants
- C speed up reaching equilibrium without changing its position
- D change the equilibrium constant

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21 **A change applied to a system at equilibrium is called**

- A precipitate
- B stress
- C common ion effect
- D equilibrium

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22 **For an exothermic reaction, raising the temperature shifts equilibrium toward the**

A products

B reactants

C catalyst

D solids only

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23 **Equilibrium where reactions continue in both directions at equal rates is called**

A common ion effect

B equilibrium

C dynamic equilibrium

D equilibrium constant

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24 **Concentrations at equilibrium are: product 4 moles per litre and reactant 2 moles per litre for a reaction with equal coefficients. The equilibrium constant is**

ANSWER

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25 **A solid formed from a solution during a reaction is called**

A equilibrium

B equilibrium constant

C Le Chatelier principle

D precipitate

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ANSWER KEY

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

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