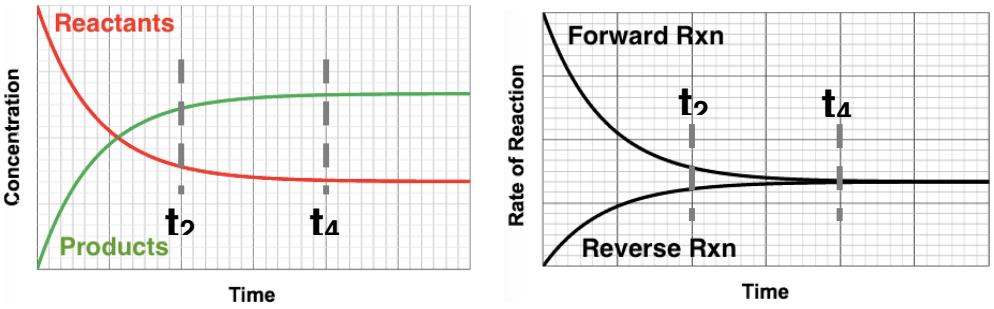
The Equilibrium Concept

Activity 1: The Equilibrium Condition
Question Group1
Question 1

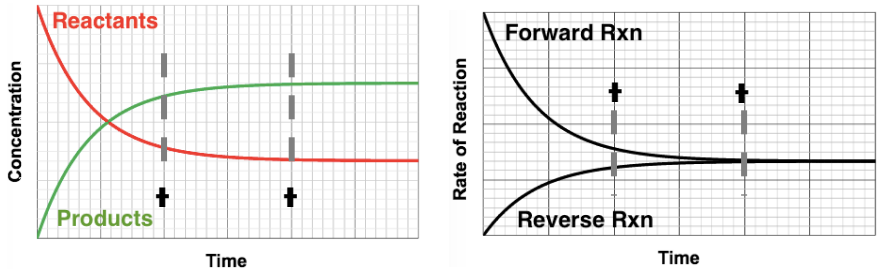
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
d. Once equilibrium is reached, the concentration of reactants is equal to the concentration of products.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

Question 2

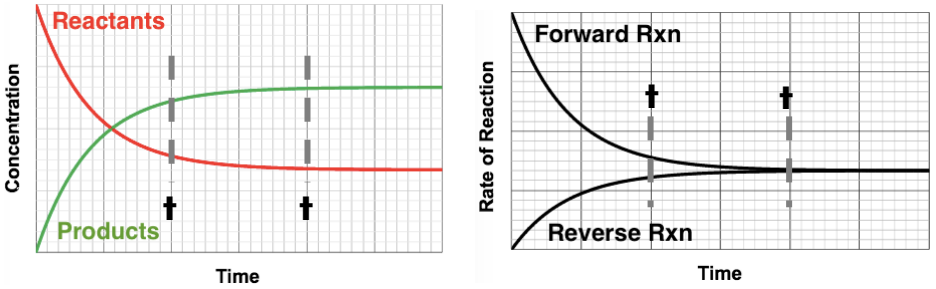
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_2.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are zero.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.

Question 3

The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.

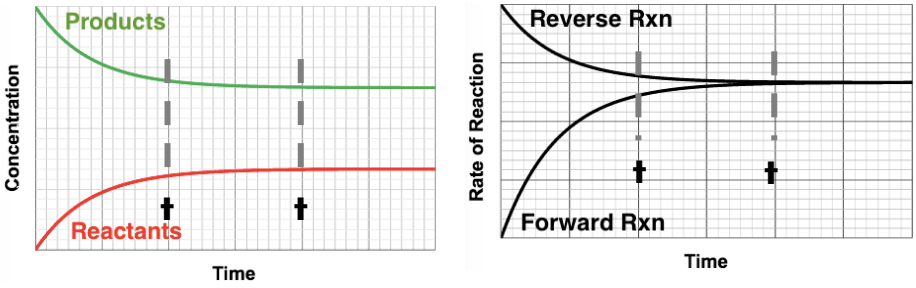


a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are zero.
d. Once equilibrium is reached, there are equal concentrations of reactants and products.
e. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.

Question Group 2

Question 4

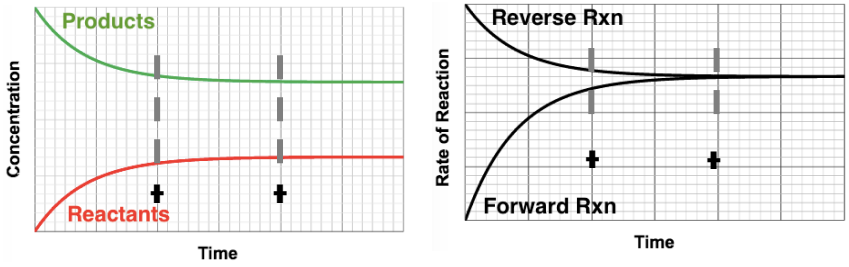
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, there are equal concentrations of reactants and products.
d. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
e. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.

Question 5

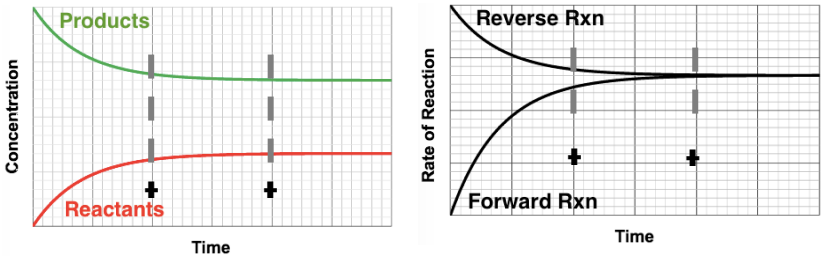
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_2.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

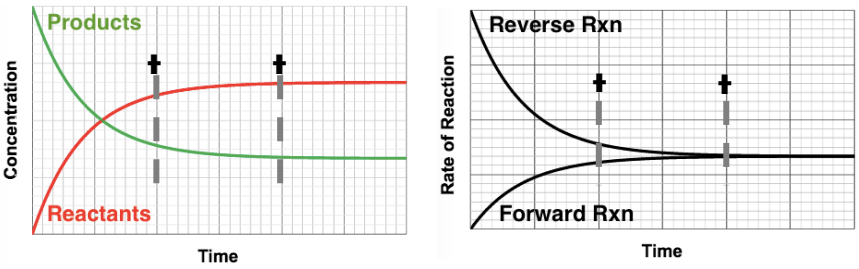
Question 6

The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



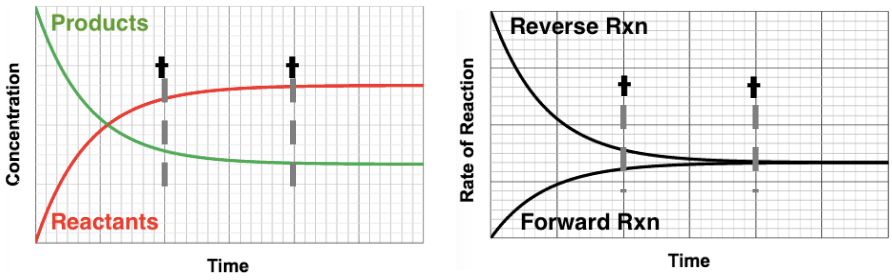
a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, the reverse reaction has the higher rate.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

Question Group 3
Question 7
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, the forward reaction has the higher rate.
d. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.
e. Once equilibrium is reached, the concentration of reactants is equal to the concentration of products.

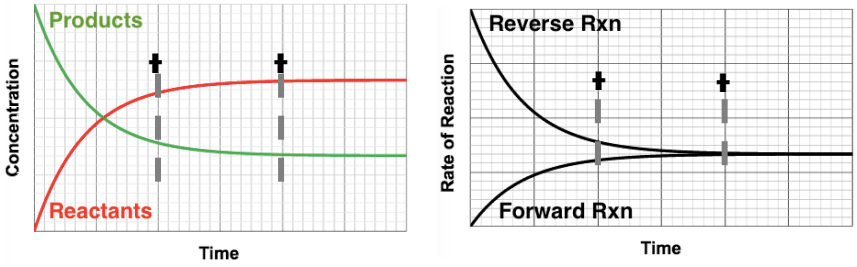
Question 8
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_2.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

Question 9

The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.

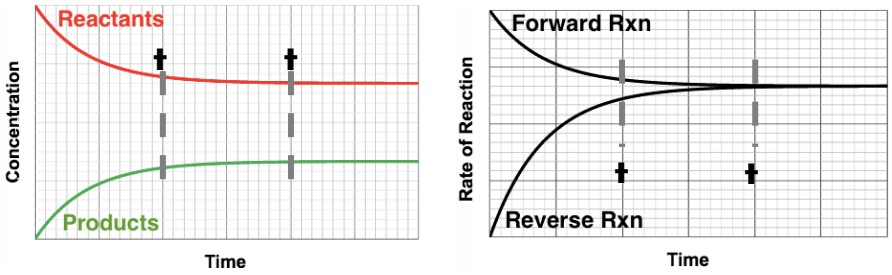


a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are zero.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.

Question Group 4

Question 10

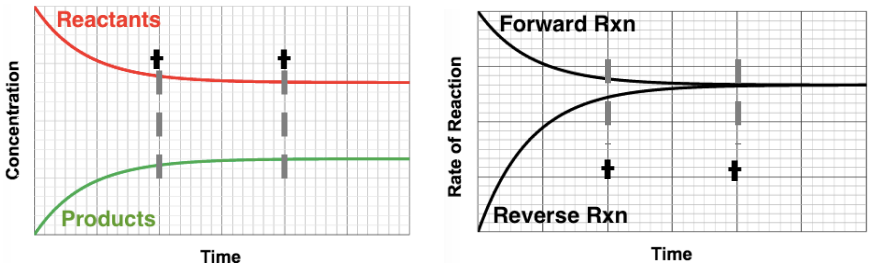
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_2.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations increase and product concentrations decrease.

Question 11

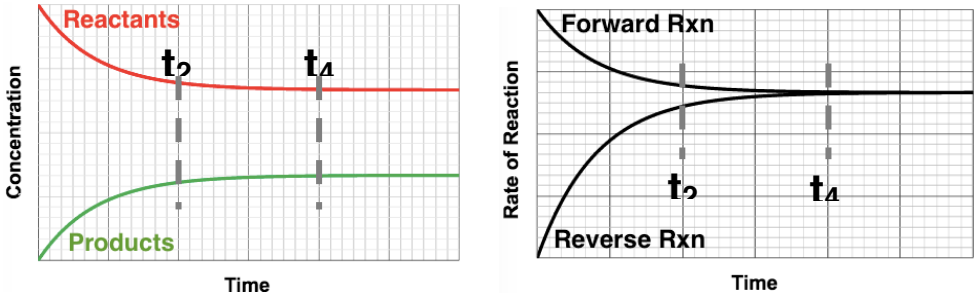
The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of products.
c. Once equilibrium is reached, the forward reaction has the higher rate.
d. Once equilibrium is reached, the concentration of reactants and products remains constant.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

Question 12

The plots display **Concentration vs. Time** and **Reaction Rate vs.** Time for a reversible system approaching equilibrium. Identify all the statements that are TRUE.



a. The system has reached equilibrium by a time of t_4.
b. This reversible system favors the production of reactants.
c. Once equilibrium is reached, the rates of the forward and reverse reactions are equal.
d. Once equilibrium is reached, the concentration of reactants is equal to the concentration of products.
e. As this system approaches equilibrium, reactant concentrations decrease and product concentrations increase.

Question Group 5
Question 13
Complete the paragraph by selecting appropriate words and phrases for each blank. Tap on the blanks to toggle through answer options, in search of the best one.

Closed, reversible systems undergo change until they reach equilibrium. If the system **initially** consists of **only reactants**, then the forward reaction procedes at a _____ rate than the reverse reaction. Concentrations of reactants begin to _____ while concentrations of products _____. This causes the forward reaction to _____ and the reverse reaction to _____. These changes continue until the rates of the forward and reverse reaction _____. When this occurs, equilibrium is established and the concentrations of reactants and products _____.

Options for blanks:
1. higher, lower
2. increase, decrease
3. increase, decrease
4. speed up, slow down
5. speed up, slow down
6. are equal to each other, are equal to 0, are no longer changing
7. are equal to each other, are equal to 0, are no longer changing

Question 14

Complete the paragraph by selecting appropriate words and phrases for each blank. Tap on the blanks to toggle through answer options, in search of the best one.

Closed, reversible systems undergo change until they reach equilibrium. If the system **initially** consists of **only products**, then the forward reaction procedes at a _____ rate than the reverse reaction. Concentrations of reactants begin to _____ while concentrations of products _____. This causes the forward reaction to _____ and the reverse reaction to _____. These changes continue until the rates of the forward and reverse reaction are _____. When this occurs, equilibrium is established and the concentrations of reactants and products are _____.

Options for blanks:

1. higher, lower
2. increase, decrease
3. increase, decrease
4. speed up, slow down
5. speed up, slow down
6. are equal to each other, are equal to 0, are no longer changing
7. are equal to each other, are equal to 0, are no longer changing

Question Group 6
Two Truths and a Lie
Question 15
Consider these three statements. Identify the two TRUE and the one FALSE statement.

- At equilibrium, the rate of the forward reaction is equal to the rate of the reverse reaction.
- Once equilibrium is established, the concentration of the reactants and the concentration of the products no longer change.
- Once equilibrium is established, reactant particles are no longer changed into product particles ... and vice versa.

Question 16
Consider these three statements. Identify the two TRUE and the one FALSE statement.

- At equilibrium, the rate of the forward reaction is equal to the rate of the reverse reaction.
- Once equilibrium is established, reactant particles are still being turned into product particles ... and vice versa.
- Once equilibrium is established, the concentration of the reactants are equal to the concentration of the products.

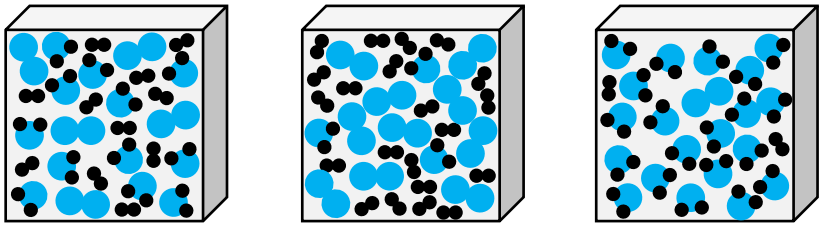
Question 17
Consider these three statements. Identify the two TRUE and the one FALSE statement.

- At equilibrium, the rate of the forward reaction is equal to the rate of the reverse reaction.
- Once equilibrium is established, the concentration of the reactants and the concentration of the products no longer change.
- At equilibrium, the concentration of the reactants are equal to the concentration of the products.

Activity 2: The Equilibrium Constant
Question Group 7
Question 18
Consider the reversible reaction:

The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

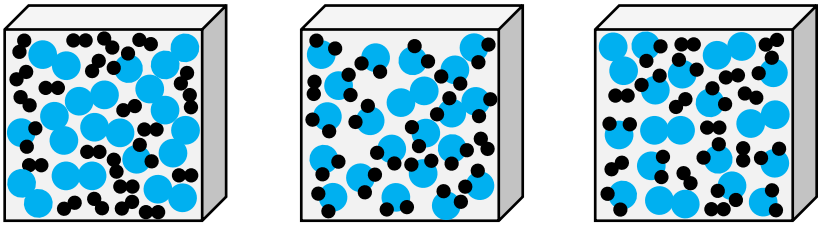
K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**



Question 19
Consider the reversible reaction:

The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**

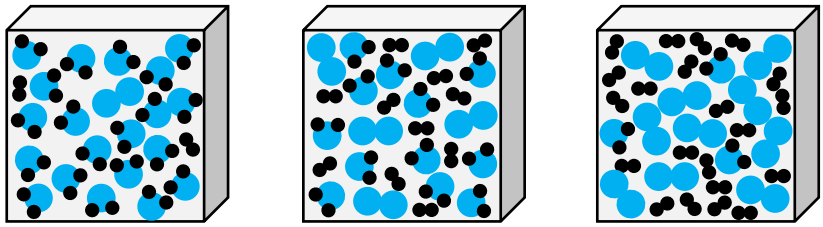


Question 20

Consider the reversible reaction:

The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**



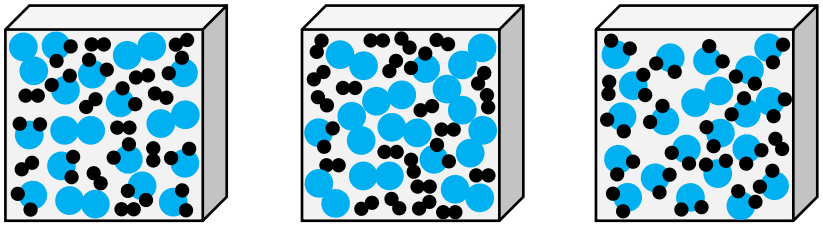
Question Group 8

Question 21

Consider the reversible reaction:

The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

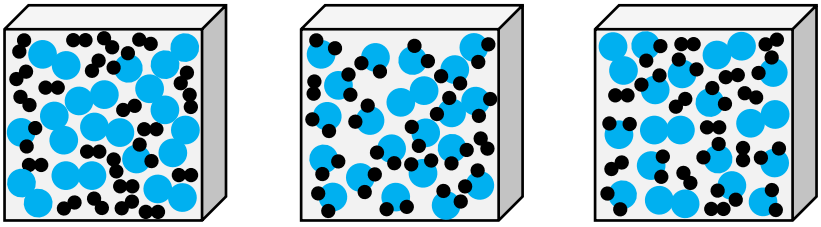
K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**



Question 22
Consider the reversible reaction:

The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

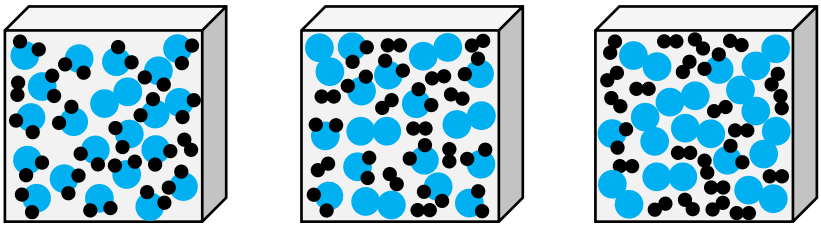
K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**



Question 23
Consider the reversible reaction:

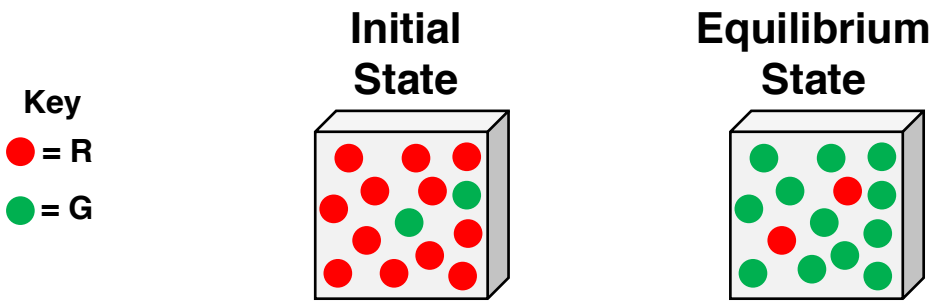
The particle diagrams below represent the mixture of reactants and products present at equilibrium for three different temperatures. Relate each diagram to a relative K value, with the options being:

K is Large	K is Intermediate	K is Small
K >> 1	**K ≈ 1**	**K << 1**



Question Group 9
Question 24
Consider the reversible reaction: R ↔ G

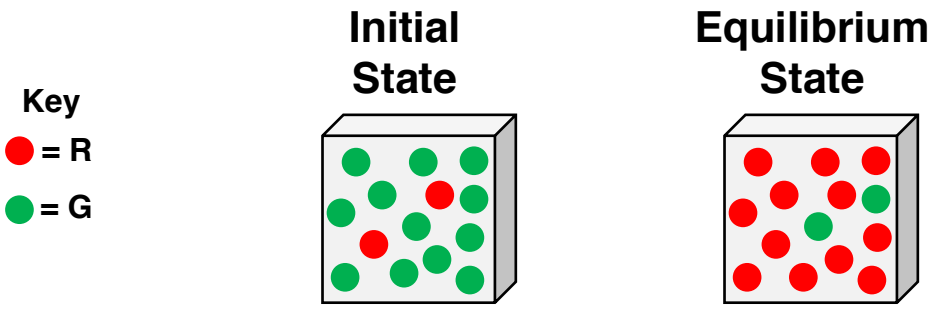
A particle diagram of the system in the initial state and the equilibrium state is shown:



Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the right.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively large (K > 1).
d. Given the initial composition, the reaction proceeds to the left to reach equilibrium.

Question 25
Consider the reversible reaction: R ↔ G

A particle diagram of the system in the initial state and the equilibrium state is shown:

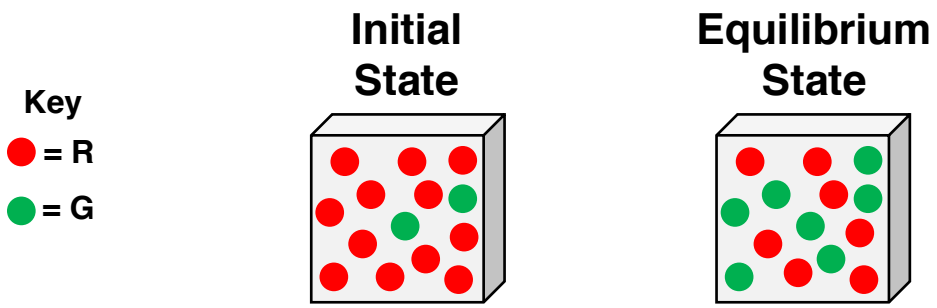


Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the right.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively small (K < 1).
d. Given the initial composition, the reaction proceeds to the left to reach equilibrium.

Question 26

Consider the reversible reaction: R ↔ G

A particle diagram of the system in the initial state and the equilibrium state is shown:



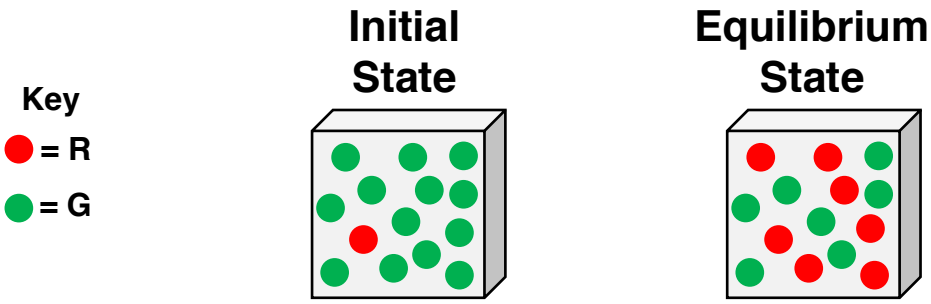
Which of the following are **TRUE** of this reversible system? Select all that apply.

a. The equilibrium lies far to the left.
b. The equilibrium favors the formation of reactants.
c. The equilibrium constant has an intermediate value (K ≈ 1).
d. Given the initial composition, the reaction proceeds to the right to reach equilibrium.

Question 27

Consider the reversible reaction: R ↔ G

A particle diagram of the system in the initial state and the equilibrium state is shown:

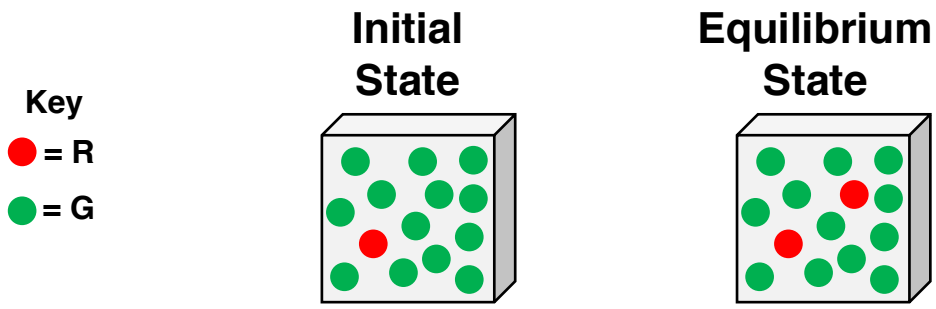


Which of the following are **TRUE** of this reversible system? Select all that apply.

a. The equilibrium lies to the right.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively large (K > 1).
d. Given the initial composition, the reaction proceeds to the left to reach equilibrium.

Question Group 10
Question 28
Consider the reversible reaction: G ↔ R

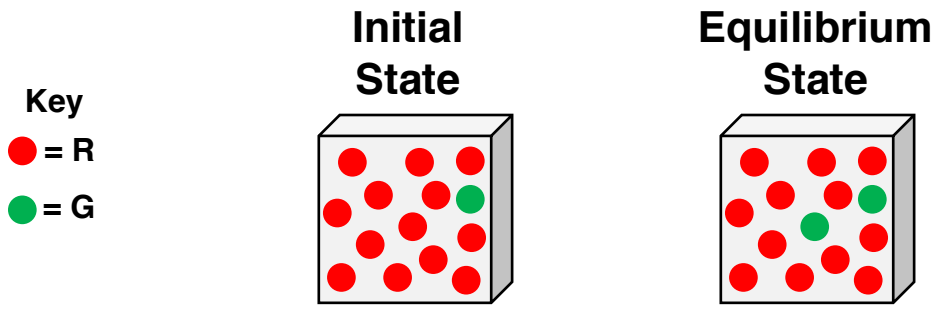
A particle diagram of the system in the initial state and the equilibrium state is shown:



Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the right.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively large (K > 1).
d. Given the initial composition, the reaction proceeds to the right to reach equilibrium.

Question 29
Consider the reversible reaction: G ↔ R

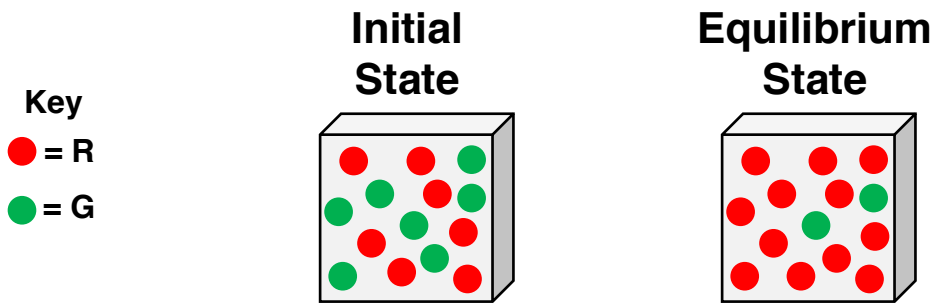
A particle diagram of the system in the initial state and the equilibrium state is shown:



Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the left.
b. The equilibrium favors the formation of reactants.
c. The equilibrium constant is relatively large (K > 1).
d. Given the initial composition, the reaction proceeds to the left to reach equilibrium.

Question 30
Consider the reversible reaction: G ↔ R

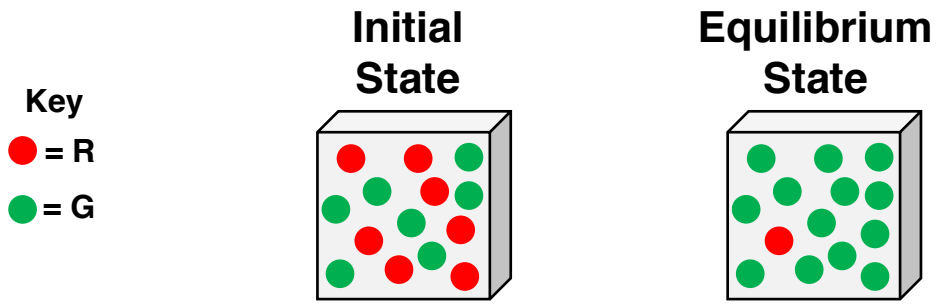
A particle diagram of the system in the initial state and the equilibrium state is shown:



Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the right.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively small (K < 1).
d. Given the initial composition, the reaction proceeds to the left to reach equilibrium.

Question 31
Consider the reversible reaction: G ↔ R

A particle diagram of the system in the initial state and the equilibrium state is shown:



Which of the following are **TRUE** of this reversible system? Select all that apply.
a. The equilibrium lies to the left.
b. The equilibrium favors the formation of products.
c. The equilibrium constant is relatively large (K > 1).
d. Given the initial composition, the reaction proceeds to the right to reach equilibrium.

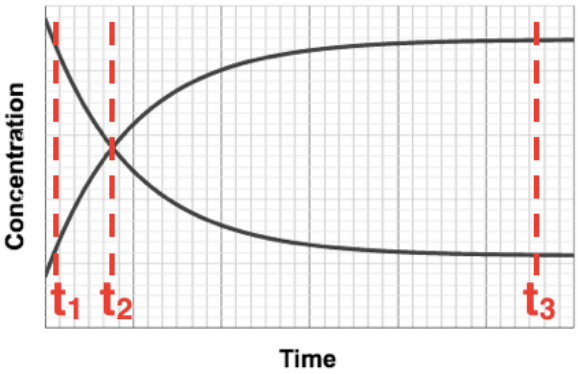
Question Group 11

Question 32

Consider the reversible system represented by the generic equation:

$$R_{(g)} \leftrightarrow G_{(g)}$$

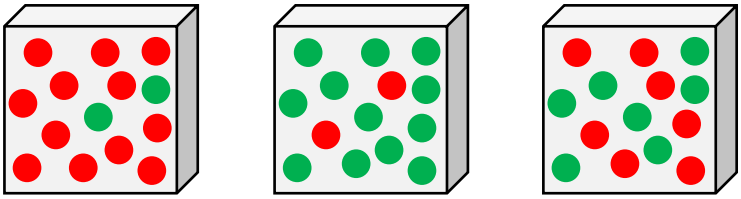
The Concentration vs. Time shows the system approaching equilibrium. The three times marked times - t_1, t_2, and t_3 - correspond to one of the particle diagrams. Knowing that **K >> 1**, match the particle diagrams to the times on the graph.



Key

● = R

● = G

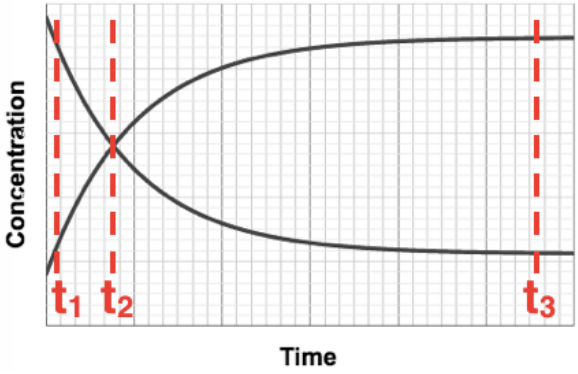


Question 33

Consider the reversible system represented by the generic equation:

$$R_{(g)} \leftrightarrow G_{(g)}$$

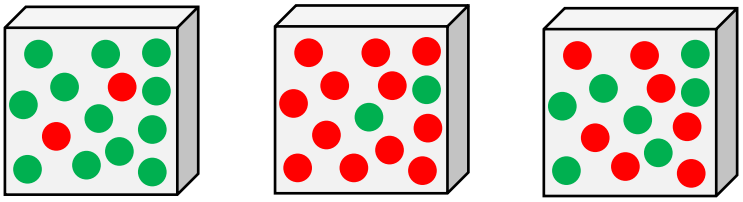
The Concentration vs. Time shows the system approaching equilibrium. The three times marked times - t_1, t_2, and t_3 - correspond to one of the particle diagrams. Knowing that **K >> 1**, match the particle diagrams to the times on the graph.



Key

● = R

● = G

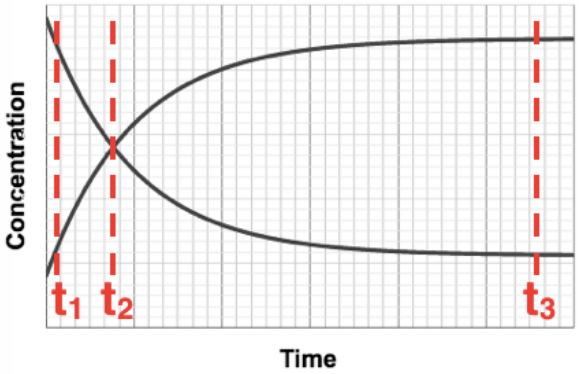


Question 34

Consider the reversible system represented by the generic equation:

$$R_{(g)} \leftrightarrow G_{(g)}$$

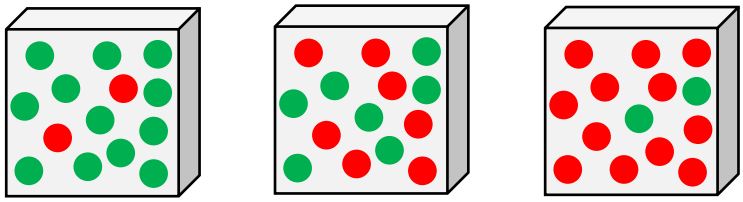
The Concentration vs. Time shows the system approaching equilibrium. The three times marked times - t_1, t_2, and t_3 - correspond to one of the particle diagrams. Knowing that **K << 1**, match the particle diagrams to the times on the graph.



Key

● = R

● = G

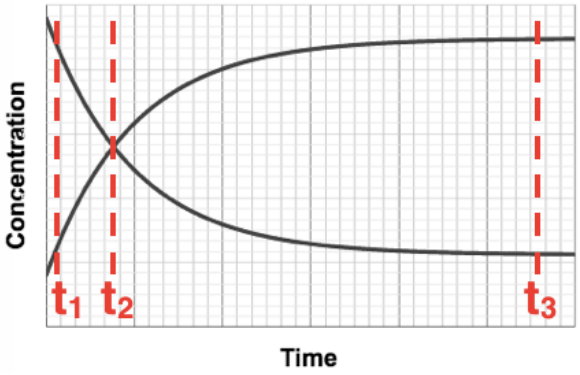


Question 35

Consider the reversible system represented by the generic equation:

$$R_{(g)} \leftrightarrow G_{(g)}$$

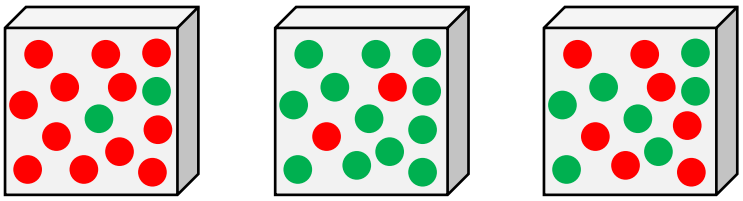
The Concentration vs. Time shows the system approaching equilibrium. The three times marked times - t_1, t_2, and t_3 - correspond to one of the particle diagrams. Knowing that **K << 1**, match the particle diagrams to the times on the graph.



Key

● = R

● = G



Question Group 12
Question 36
Complete the paragraph by selecting appropriate words and phrases for each blank.

Tap on the blanks to toggle through options in search of the best option.

The equilibrium constant (K) indicates the relative ratio of products to reactants at equilibrium. If the value of K is relatively large, then the _____ have the greater concentrations. For large K values, the equilibrium position lies on the _____ side. The system is said to favor the production of _____. The main variable that affects the value of K for any given reaction is the _____. If the system initially contains a nearly equal mix of reactants and products, then it would proceed in the _____ direction to produce more _____ and reduce the _____ concentrations.

Options for blanks include:
1. reactants, products
2. left, right
3. reactants, products
4. initial [ ] of reactants and products, temperature of the system
5. forward, reverse
6. reactants, products
7. reactant, product

Question 37

Complete the paragraph by selecting appropriate words and phrases for each blank.

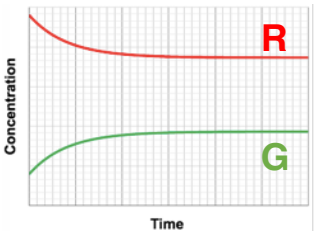
Tap on the blanks to toggle through the answer options.

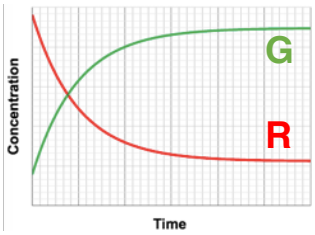
The equilibrium constant (K) indicates the relative ratio of products to reactants at equilibrium. If the value of K is relatively small, then the _____ have the greater concentrations. For small K values, the equilibrium position lies on the _____ side. The system is said to favor the production of _____. The main variable that affects the value of K for any given reaction is the _____. If the system initially contains a nearly equal mix of reactants and products, then it would proceed in the _____ direction to produce more _____ and reduce the _____ concentrations.

Options for blanks include:

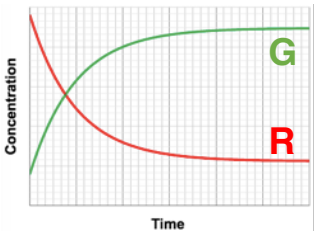
1. reactants, products
2. left, right
3. reactants, products
4. initial [ ] of reactants and products, temperature of the system
5. forward, reverse
6. reactants, products
7. reactant, product

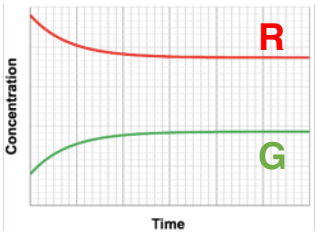
Activity 3: The Equilibrium Position
Question Group 13
Question 38
Consider a reversible system: $R_{(g)} \leftrightarrow G_{(g)}$
The Concentration-Time graphs for three such systems is shown. One of these systems is not like the others. For instance, two have a large K (the equilibrium position lies far to the right) while the other has a small K ... or vice versa. In terms of their K value, which one doesn't belong?

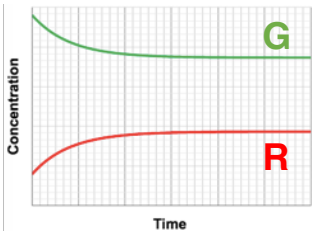




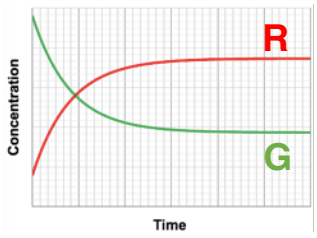
Question 39
Consider a reversible system: $R_{(g)} \leftrightarrow G_{(g)}$
The Concentration-Time graphs for three such systems is shown. One of these systems is not like the others. For instance, two have a large K (the equilibrium position lies far to the right) while the other has a small K ... or vice versa. In terms of their K value, which one doesn't belong?

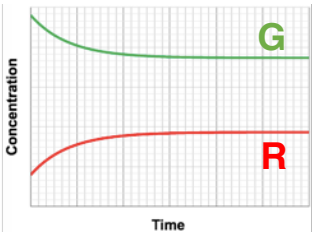


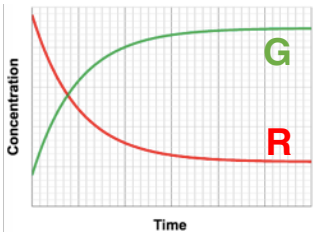




Question 40
Consider a reversible system: $R_{(g)} \leftrightarrow G_{(g)}$
The Concentration-Time graphs for three such systems is shown. One of these systems is not like the others. For instance, two have a large K (the equilibrium position lies far to the right) while the other has a small K ... or vice versa. In terms of their K value, which one doesn't belong?







Question Group 14
Question 41
Consider a reversible system: $A_{(g)} \leftrightarrow B_{(g)}$

The value of K = 4.5.

The initial conditions show that [B] / [A] = 2.1.

Which of the following would be expected to occur in order for the system to reach an equilibrium state?
a. The [A] increases and the [B] decreases.
b. The [A] decreases and the [B] increases.
c. The reaction proceeds in the forward direction (to the right).
d. The reaction proceeds in the reverse direction (to the left).

Question Group 15
Question 42
Consider a reversible system: $A_{(g)} \leftrightarrow B_{(g)}$

The value of K = 4.5.

The initial conditions show that [B] / [A] = 9.2.

Which of the following would be expected to occur in order for the system to reach an equilibrium state?
a. The [A] increases and the [B] decreases.
b. The [A] decreases and the [B] increases.
c. The reaction proceeds in the forward direction (to the right).
d. The reaction proceeds in the reverse direction (to the left).

Question Group 16
Question 43
Consider two reversible reaction systems:

Reaction 1: At equilbrium, [reactants] >> [products]
Reaction 2: At equilbrium, [products] >> [reactants]
(">>" means much greater than)

Match each statement (below) to either Reaction 1 or Reaction 2.
a. The K value is relatively large (K >> 1).
b. The K value is relatively small (K << 1).
c. The equilibrium position lies far to the right (on product side).
d. The equilibrium position lies far to the left (on reactant side).

Question 44
Consider two reversible reaction systems:

Reaction 1: At equilbrium, [products] >> [reactants]
Reaction 2: At equilbrium, [reactants] >> [products]
(">>" means much greater than)

Match each statement to either Reaction 1 or Reaction 2.
a. The K value is relatively large (K >> 1).
b. The K value is relatively small (K << 1).
c. The equilibrium position lies far to the right (on product side).
d. The equilibrium position lies far to the left (on reactant side).

Question Group 17
Question 45

Consider the reversible system represented by the generic equation:

$$A_{(g)} \leftrightarrow B_{(g)}$$

The equilibrium constant (K) for this reaction is 2.00. Several trials are conducted. The initial concentrations of reactants and products is shown. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	2.00	1.00
2	0.50	1.00
3	0.50	2.00

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.

Question 46

Consider the reversible system represented by the generic equation:

$$A_{(g)} \leftrightarrow B_{(g)}$$

The equilibrium constant (K) for this reaction is 2.00. Several trials are conducted. The initial concentrations of reactants and products is shown. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	0.50	1.00
2	0.50	2.00
3	2.00	1.00

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.

Question 47

Consider the reversible system represented by the generic equation:

$$A_{(g)} \leftrightarrow B_{(g)}$$

The equilibrium constant (K) for this reaction is 2.00. Several trials are conducted. The initial concentrations of reactants and products is shown. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	0.50	2.00
2	2.00	1.00
3	0.50	1.00

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.

Question Group 18

Question 48

Consider the reversible system represented by the generic equation:

$$A_{(g)} \leftrightarrow B_{(g)}$$

The equilibrium constant (K) for this reaction is 0.50. Several trials are conducted. Reactants and products are initially combined with varying concentrations. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	2.00	1.00
2	0.50	0.50
3	2.00	0.50

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.

Question 49

Consider the reversible system represented by the generic equation:

$A_{(g)} \leftrightarrow B_{(g)}$

The equilibrium constant (K) for this reaction is 0.50. Several trials are conducted. Reactants and products are initially combined with varying concentrations. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	0.50	0.50
2	2.00	0.50
3	2.00	1.00

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.

Question 50

Consider the reversible system represented by the generic equation:

$A_{(g)} \leftrightarrow B_{(g)}$

The equilibrium constant (K) for this reaction is 0.50. Several trials are conducted. Reactants and products are initially combined with varying concentrations. Match each trial to the appropriate statement.

Trial	Initial [A]	Initial [B]
1	2.00	0.50
2	2.00	1.00
3	0.50	0.50

- This system is already at equilibrium. No subsequent change will be observed in the concentrations.
- This system is not at equilibrium. The reaction will proceed in the forward direction, increasing the [ ] of products and decreasing the [ ] of reactants.
- This system is not at equilibrium. The reaction will proceed in the reverse direction, increasing the [ ] of reactants and decreasing the [ ] of products.