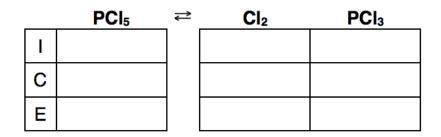
Equilibrium ICE Table Questions

Apprentice Difficulty Level Question Group 1 Question 1

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.00 M PCI₅. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.40 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

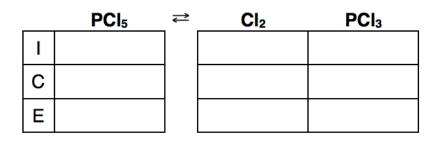
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know [PCl₅]_{eq} is 0.40 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 3.00 M PCI₅. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

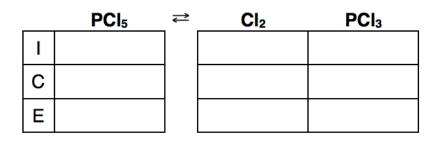
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 0.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.80 M PCI₅. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

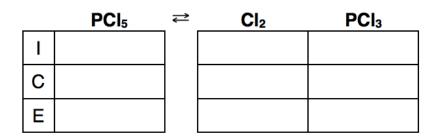
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCl_5]_{eq}$ is 0.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.6 M PCI₅. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

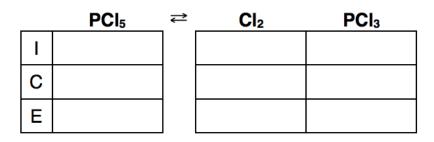
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 0.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 2 Question 5

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.00 M Cl₂ and 2.00 M PCl₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCl₅ is 0.60 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

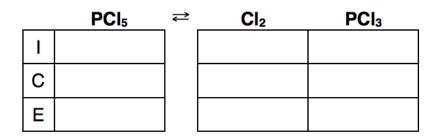
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCl_5]_{eq}$ is 0.60 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.50 M Cl₂ and 2.50 M PCl₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCl₅ is 0.70 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

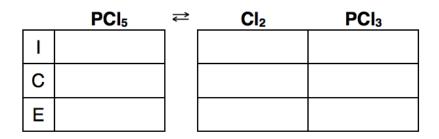
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 0.70 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.80 M Cl₂ and 2.80 M PCl₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCl₅ is 0.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

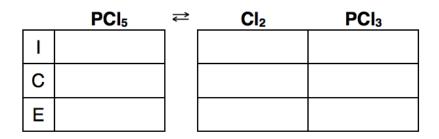
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCl_5]_{eq}$ is 0.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.90 M Cl₂ and 1.90 M PCl₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCl₅ is 0.40 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

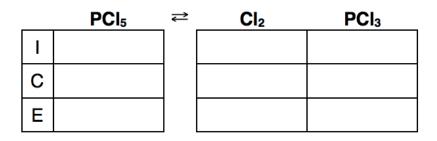
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 0.40 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 3 Question 9

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.00 M PCI₅, 1.80 M CI₂ and 1.80 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.1.20 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

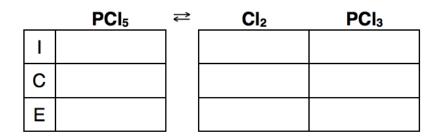
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 1.20 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.60 M PCI₅, 2.00 M CI₂ and 2.00 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.1.20 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

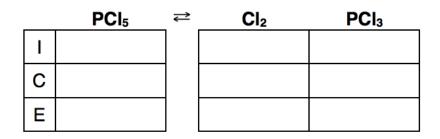
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 1.20 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 2.40 M PCI₅, 2.80 M CI₂ and 2.80 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.1.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

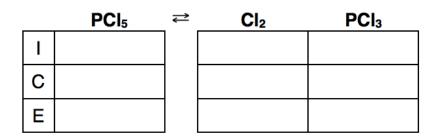
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCl_5]_{eq}$ is 1.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.50 M PCI₅, 1.80 M CI₂ and 1.80 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 0.0.90 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

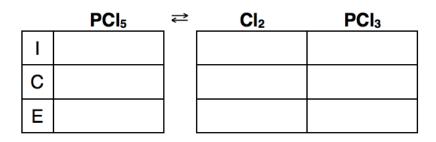
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 0.90 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 4 Question 13

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.00 M PCI₅, 2.80 M CI₂ and 3.00 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 1.40 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

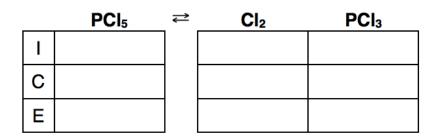
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 1.40 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 0.80 M PCI₅, 2.60 M CI₂ and 3.20 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 1.20 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

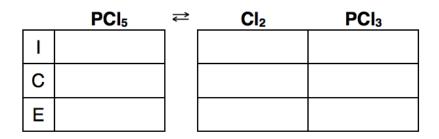
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know [PCl₅]_{eq} is 1.20 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 0.90 M PCI₅, 3.6 M Cl₂ and 2.50 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 1.40 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

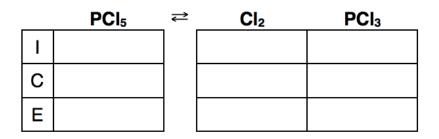
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCI_5]_{eq}$ is 1.40 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $PCI_{5(g)} \rightleftharpoons CI_{2(g)} + PCI_{3(g)}$ A container is filled with 1.00 M PCI₅, 3.4 M CI₂ and 2.80 M PCI₃. The reaction proceeds to equilibrium. The equilibrium concentration of PCI₅ is 1.60 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

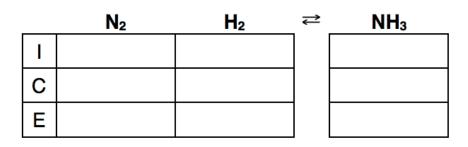
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[PCl_5]_{eq}$ is 1.60 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Master Difficulty Level Question Group 5 Question 17

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 6.00 mol of N₂ and 5.40 mol of H₂. Once equilibrium is reached, there are 4.80 mole of N₂ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

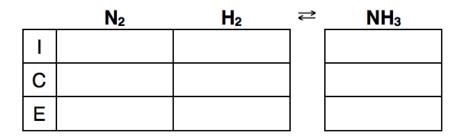
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 2.40 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 3.20 M N₂ and 3.20 M H₂. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 2.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

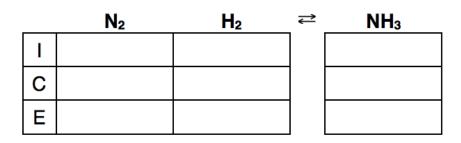
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 2.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.20 M N₂ and 2.20 M H₂. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

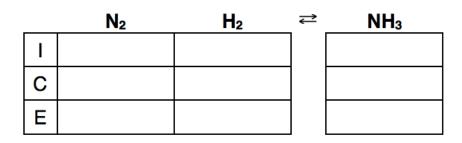
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 1.80 M N₂ and 1.80 M H₂. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

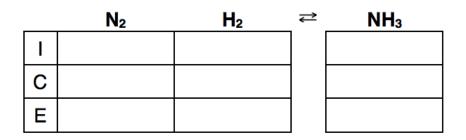
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 6 Question 21

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.50 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 0.60 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

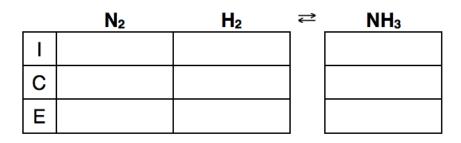
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 0.60 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.00 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 0.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

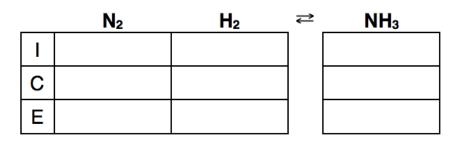
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 0.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 1.80 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 0.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

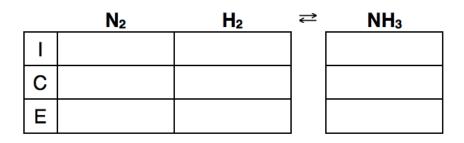
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 0.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 3.00 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 0.60 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

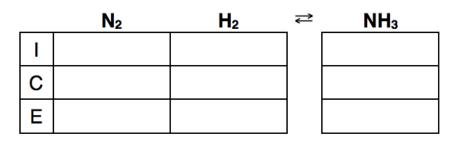
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 0.60 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 7 Question 25

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.50 M N₂, 3.50 M H₂, and 3.00 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 2.00 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

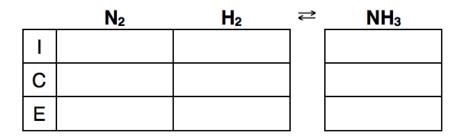
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 2.00 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.40 M N₂, 2.80 M H₂, and 1.40 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 2.00 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

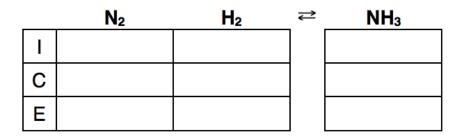
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 2.00 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 3.00 M N₂, 2.80 M H₂, and 1.40 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 2.50 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

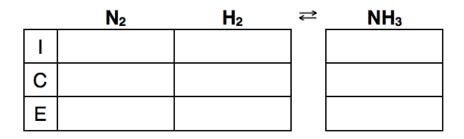
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 2.50 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 2.10 M N₂, 2.60 M H₂, and 0.50 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.60 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

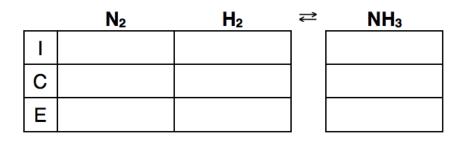
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.60 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 8 Question 29

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 1.40 M N₂, 0.80 M H₂, and 3.40 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.80 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

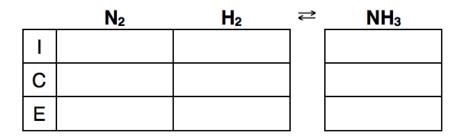
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.80 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 0.80 M N₂, 0.80 M H₂, and 3.60 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.30 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

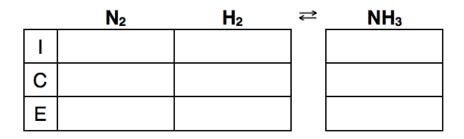
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.30 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 0.40 M N₂, 0.60 M H₂, and 3.60 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.00 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

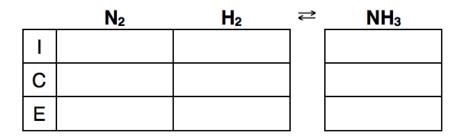
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.00 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A container is filled with 1.00 M N₂, 1.00 M H₂, and 2.80 M NH₃. The reaction proceeds to equilibrium. The equilibrium concentration of N₂ is 1.30 M.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use the number pad to complete.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

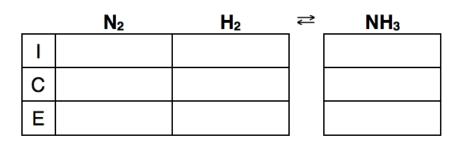
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know $[N_2]_{eq}$ is 1.30 M, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Wizard Difficulty Level Question Group 9 Question 33

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 6.00 mol of N₂ and 5.40 mol of H₂. Once equilibrium is reached, there are 2.40 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

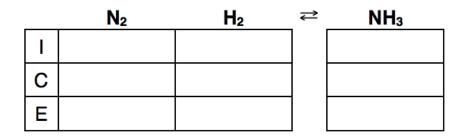
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 2.40 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 4.00-L container is filled with 4.80 mol of N₂ and 6.00 mol of H₂. Once equilibrium is reached, there are 1.60 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

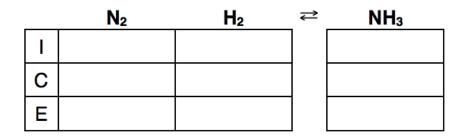
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 1.60 mol of NH_3 per 4.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 1.50-L container is filled with 4.50 mol of N₂ and 7.50 mol of H₂. Once equilibrium is reached, there are 3.00 mole of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

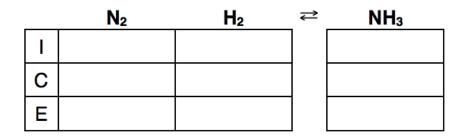
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 3.00 mol of NH_3 per 1.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 3.20 mol of N₂ and 4.50 mol of H₂. Once equilibrium is reached, there are 2.00 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

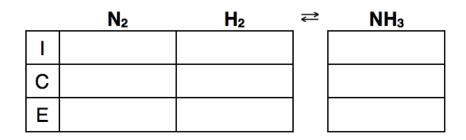
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 2.00 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 10 Question 37

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 1.50-L container is filled with 7.50 mol of NH₃. Once equilibrium is reached, there are 4.50 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

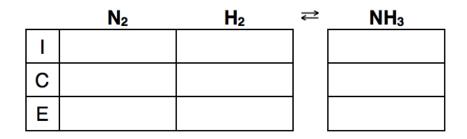
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 4.50 mol of NH_3 per 1.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 8.00 mol of NH₃. Once equilibrium is reached, there are 4.80 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

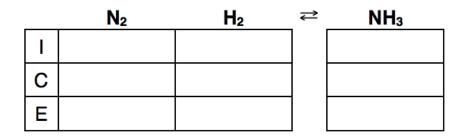
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 4.80 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 6.00 mol of NH₃. Once equilibrium is reached, there are 3.20 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

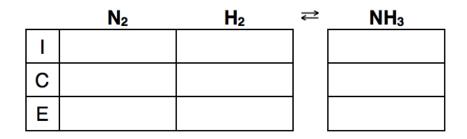
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 3.20 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 2.20 mol of NH₃. Once equilibrium is reached, there are 1.40 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

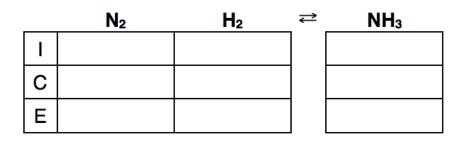
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 1.40 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 11 Question 41

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 1.60 mol of N₂, 1.80 mol of H₂, and 0.70 mol of NH₃. Once equilibrium is reached, there are 1.30 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

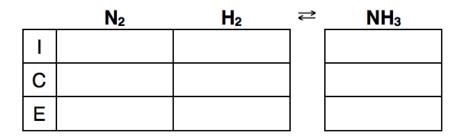
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 1.30 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 1.80 mol of N₂, 2.10 mol of H₂, and 1.75 mol of NH₃. Once equilibrium is reached, there are 2.25 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

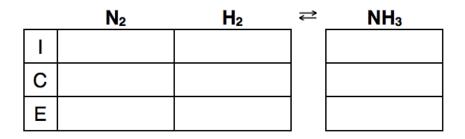
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 2.25 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 3.20 mol of N₂, 4.00 mol of H₂, and 1.40 mol of NH₃. Once equilibrium is reached, there are 2.60 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

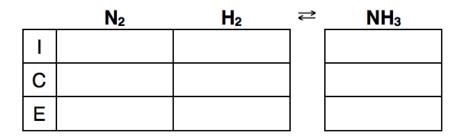
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 2.60 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 4.80 mol of N₂, 5.20 mol of H₂, and 0.60 mol of NH₃. Once equilibrium is reached, there are 2.60 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

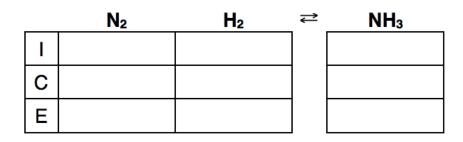
So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 2.60 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Question Group 12 Question 45

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 2.40 mol of N₂, 2.40 mol of H₂, and 8.00 mol of NH₃. Once equilibrium is reached, there are 6.40 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

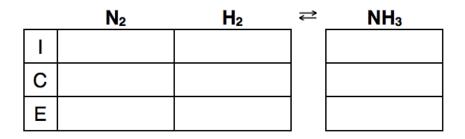
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 6.40 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 2.00-L container is filled with 2.00 mol of N₂, 2.00 mol of H₂, and 7.20 mol of NH₃. Once equilibrium is reached, there are 5.60 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

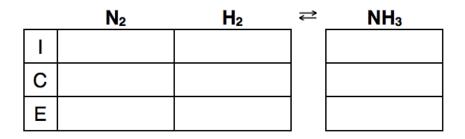
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 5.60 mol of NH_3 per 2.00 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 0.30 mol of N₂, 0.40 mol of H₂, and 1.60 mol of NH₃. Once equilibrium is reached, there are 1.20 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

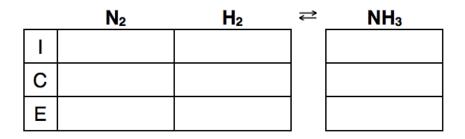
Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 1.20 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.

Consider the reversible system: $N_{2(g)} + 3 H_{2(g)} \rightleftharpoons 2 NH_{3(g)}$ A 0.50-L container is filled with 0.50 mol of N₂, 0.50 mol of H₂, and 1.40 mol of NH₃. Once equilibrium is reached, there are 1.10 mol of NH₃ present.



Identify the K expression for this reaction.

Tap on a table cell in the first row (Initial concentration) of the ICE Table and use volume and # of moles to calculate the []. Use the number pad to enter concentration values.

Tap on a table cell in the second row (Change in concentration) and use the symbol pad to complete.

So the third row (Equilibrium concentration) of the ICE Table is the initial concentration plus the change in concentration (i.e., the sum of the first two rows).

Given that we know there are 1.10 mol of NH_3 per 0.50 L at equilibrium, determine the value of x.

Now that you know x, use the expressions for the equilibrium [] (E row of ICE table) to determine the value of all equilibrium []s.