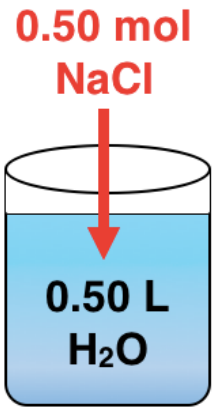
Molarity Calculations

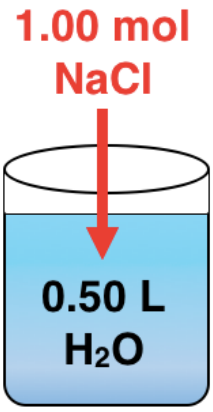
Activity 1: Case Studies

Question Group 1

Question 1

Tap on the fields to accurately complete the statement regarding Solutions A and B.

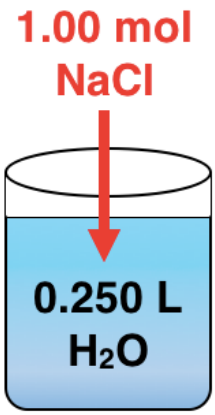


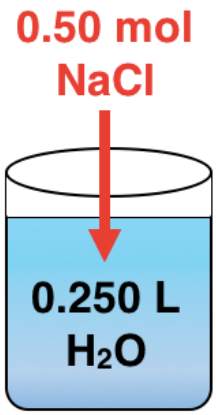


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 2

Tap on the fields to accurately complete the statement regarding Solutions A and B.

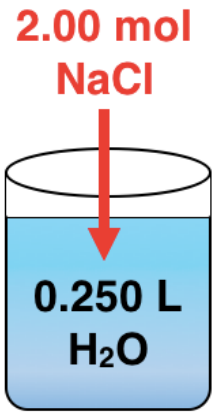


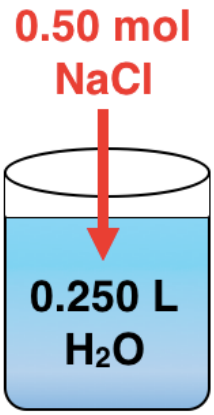


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 3

Tap on the fields to accurately complete the statement regarding Solutions A and B.



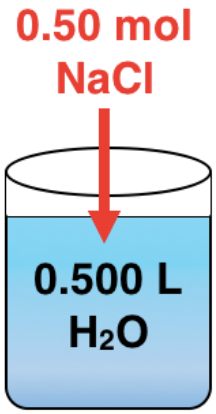


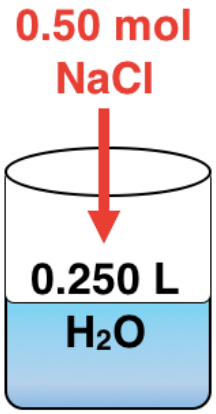
The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question Group 2

Question 4

Tap on the fields to accurately complete the statement regarding Solutions A and B.

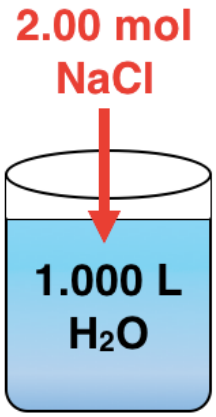


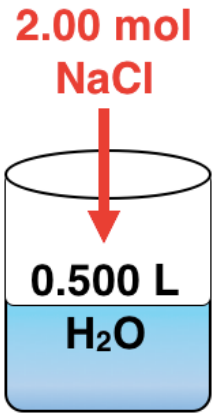


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 5

Tap on the fields to accurately complete the statement regarding Solutions A and B.

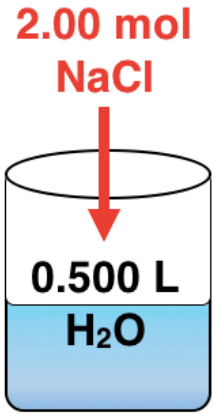


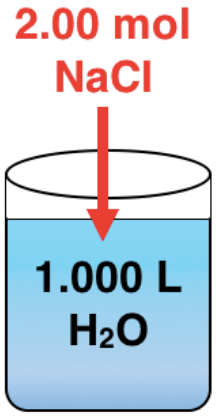


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 6

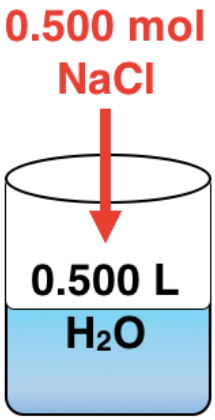
Tap on the fields to accurately complete the statement regarding Solutions A and B.

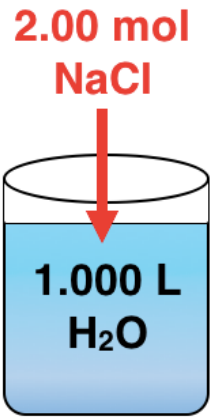




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

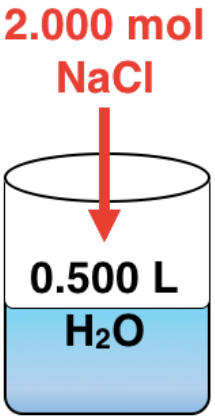
Question Group 3
Question 7
Tap on the fields to accurately complete the statement regarding Solutions A and B.

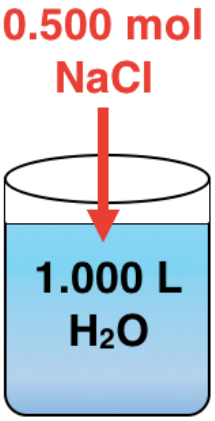




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

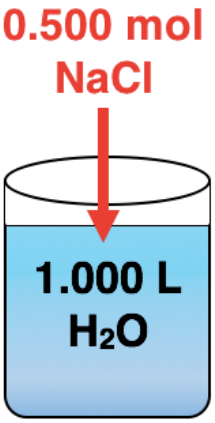
Question 8
Tap on the fields to accurately complete the statement regarding Solutions A and B.

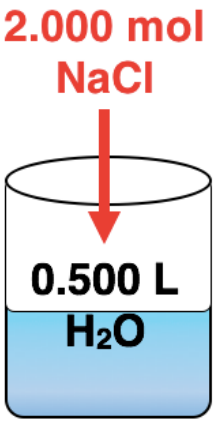




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

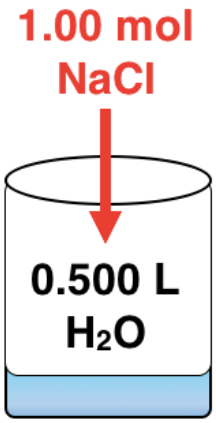
Question 9
Tap on the fields to accurately complete the statement regarding Solutions A and B.

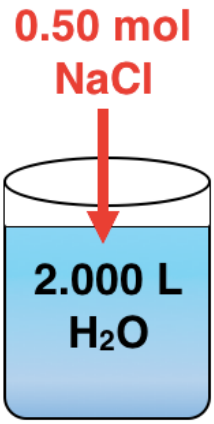




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

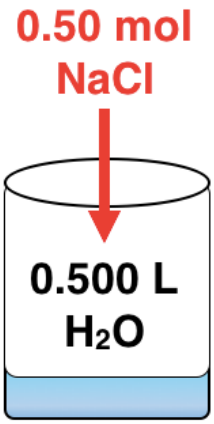
Question Group 4
Question 10
Tap on the fields to accurately complete the statement regarding Solutions A and B.

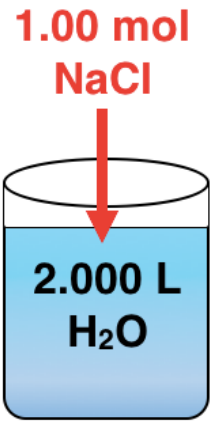




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

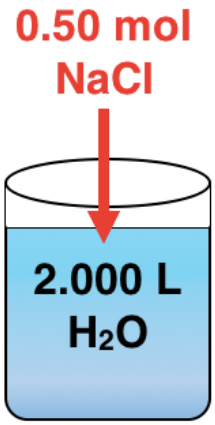
Question 11
Tap on the fields to accurately complete the statement regarding Solutions A and B.

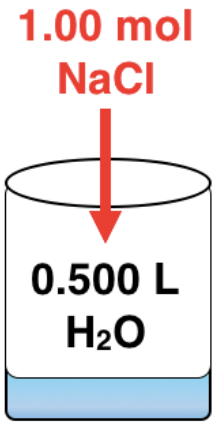




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 12
Tap on the fields to accurately complete the statement regarding Solutions A and B.



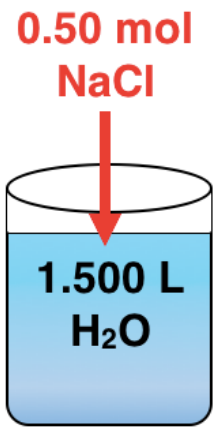


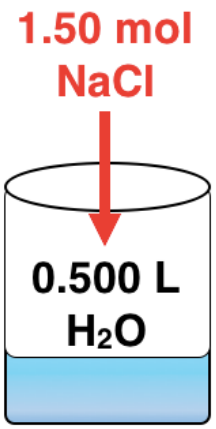
The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question Group 5

Question 13

Tap on the fields to accurately complete the statement regarding Solutions A and B.

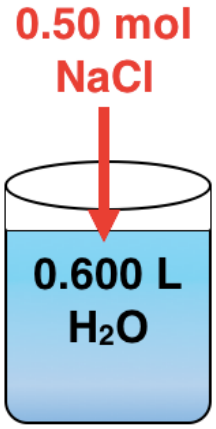


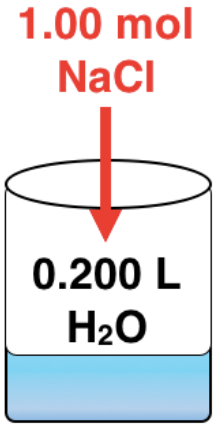


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 14

Tap on the fields to accurately complete the statement regarding Solutions A and B.

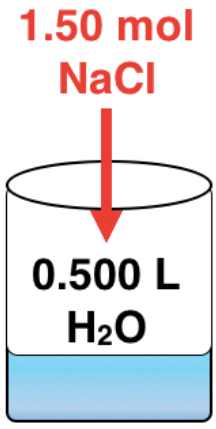


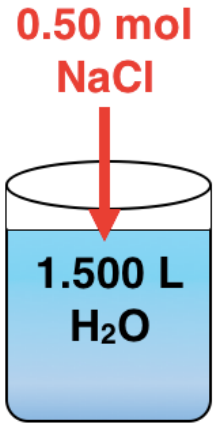


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

Question 15

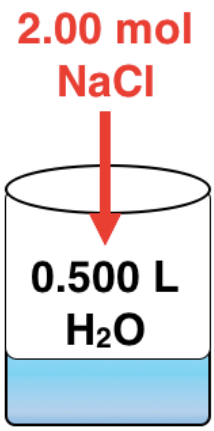
Tap on the fields to accurately complete the statement regarding Solutions A and B.

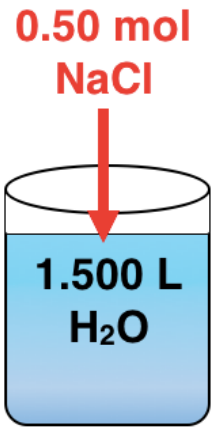




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

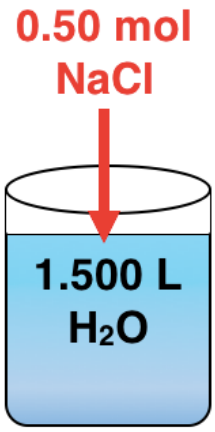
Question Group 6
Question 16
Tap on the fields to accurately complete the statement regarding Solutions A and B.

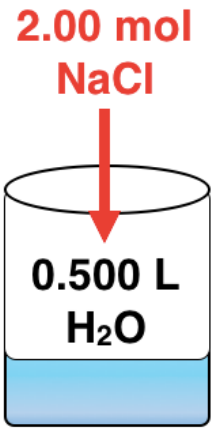




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

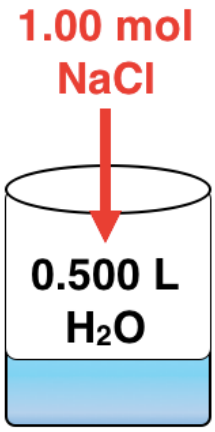
Question 17
Tap on the fields to accurately complete the statement regarding Solutions A and B.

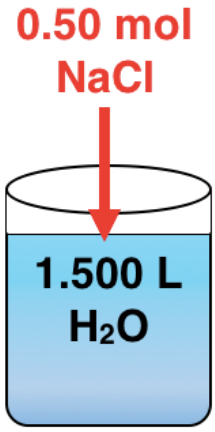




The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

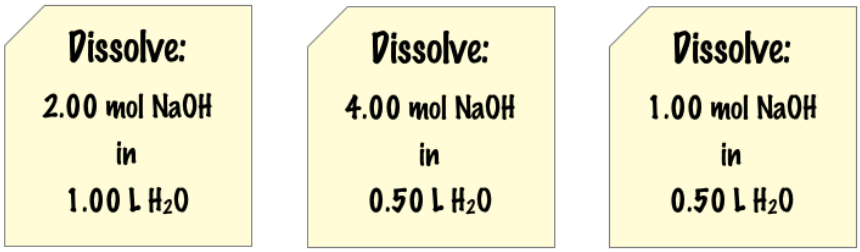
Question 18
Tap on the fields to accurately complete the statement regarding Solutions A and B.



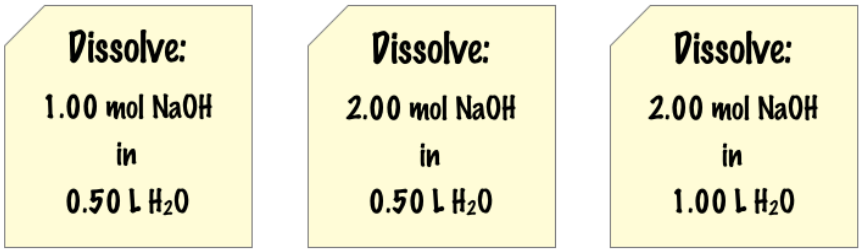


The solute concentration in Solution _____ is **greater than** the solute concentration in Solution _____ by a factor of _____.

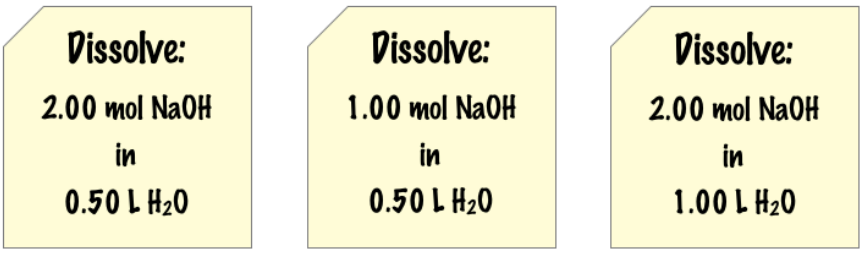
Activity 2: Solution ID
Question Group 7
Question 19
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



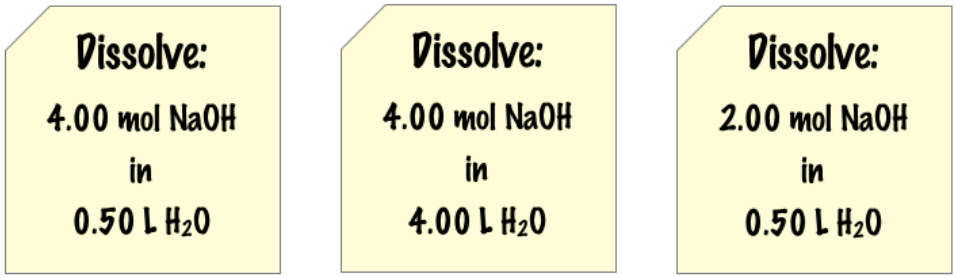
Question 20
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



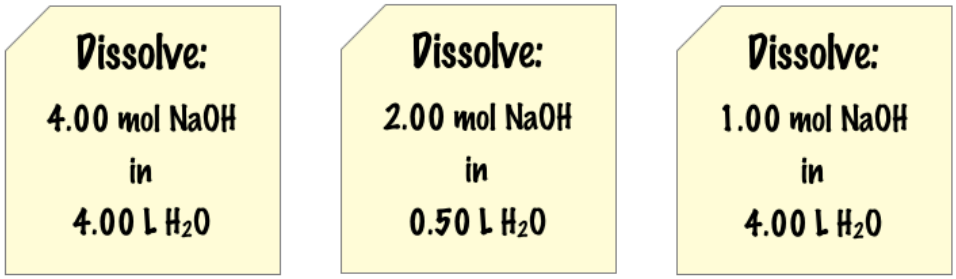
Question 21
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



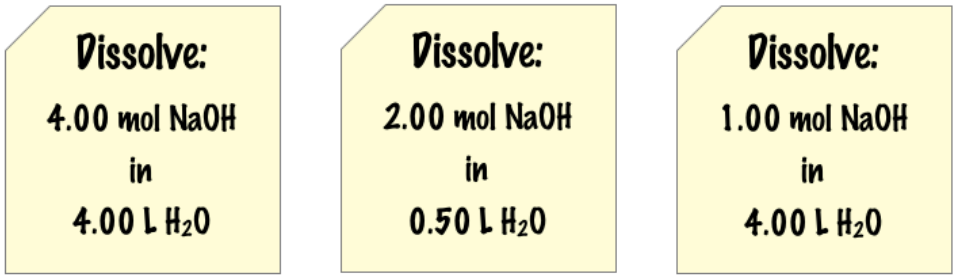
Question Group 8
Question 22
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 4.0 M? Select all that apply.



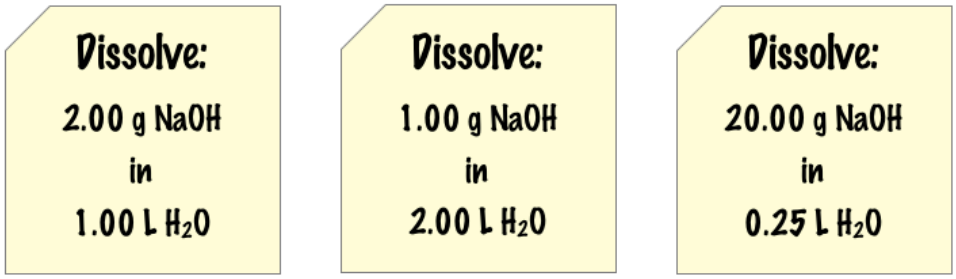
Question 23
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 4.0 M? Select all that apply.



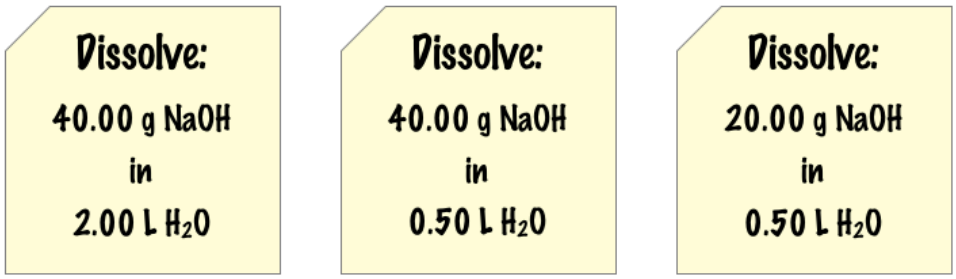
Question 24
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 4.0 M? Select all that apply.



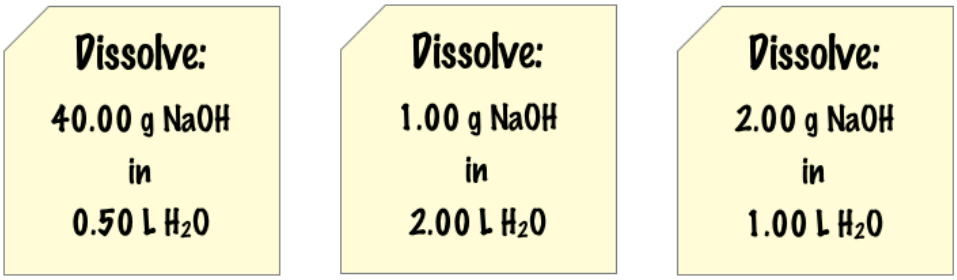
Question Group 9
Question 25
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.0 M? Select all that apply.



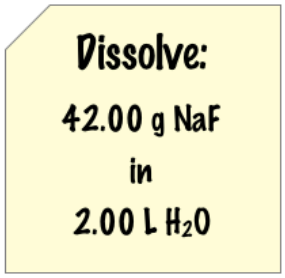
Question 26
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.0 M? Select all that apply.

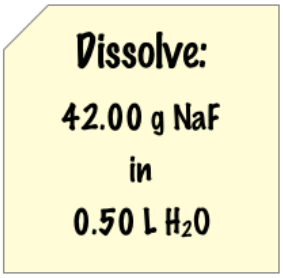


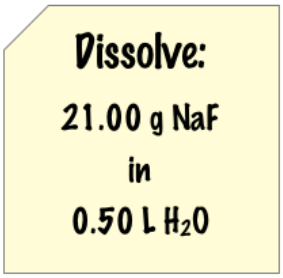
Question 27
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.0 M? Select all that apply.



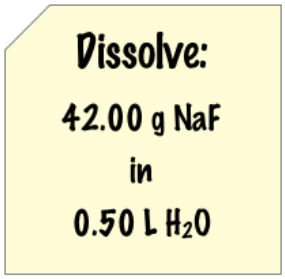
Question Group 10
Question 28
Three aqueous solutions are made by following the directions shown on the *Notes*.
Which solutions would have a solute concentration of 0.50 M? Select all that apply.

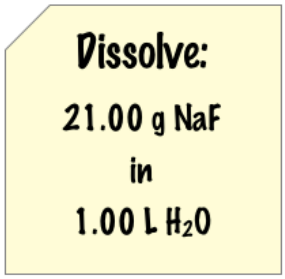


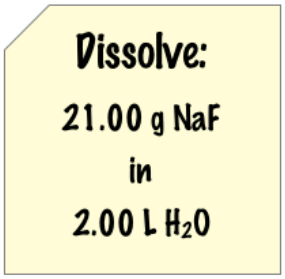




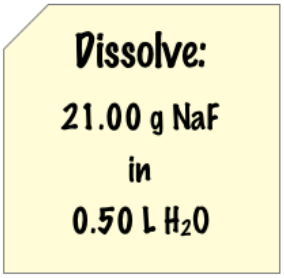
Question 29
Three aqueous solutions are made by following the directions shown on the *Notes*.
Which solutions would have a solute concentration of 0.50 M? Select all that apply.

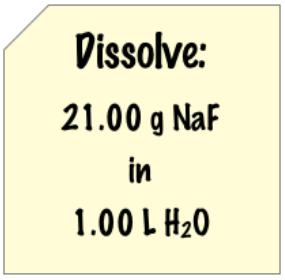


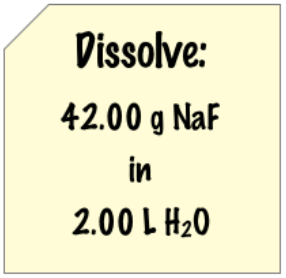




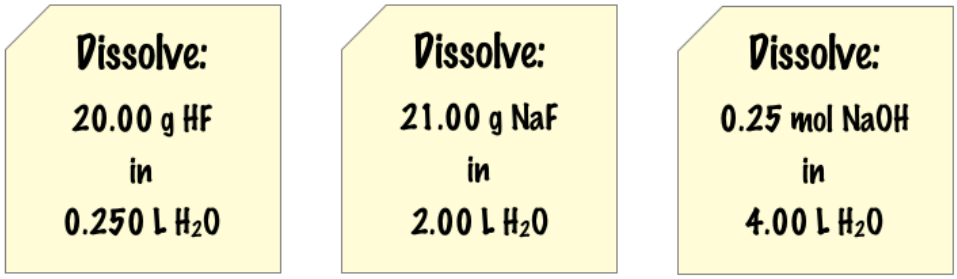
Question 30
Three aqueous solutions are made by following the directions shown on the *Notes*.
Which solutions would have a solute concentration of 0.50 M? Select all that apply.



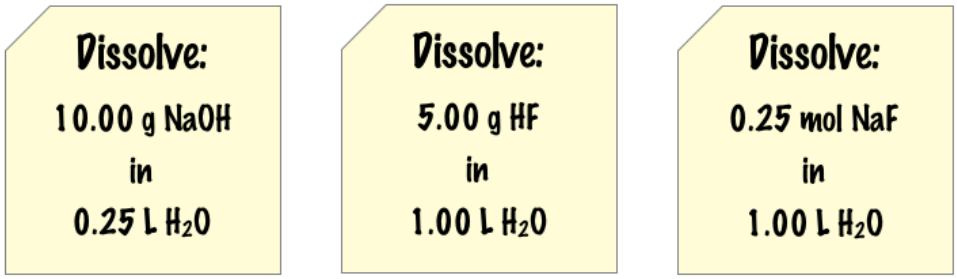




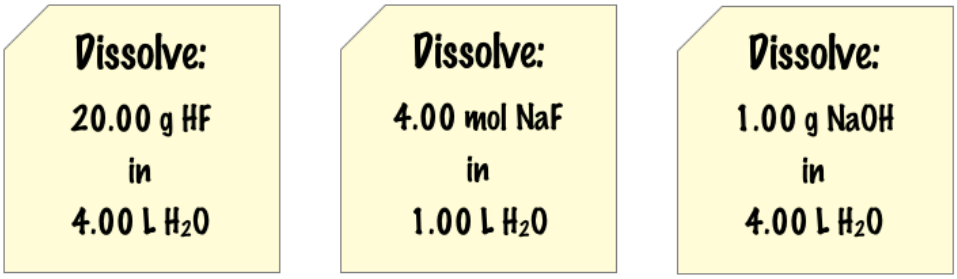
Question Group 11
Question 31
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 0.25 M? Select all that apply.



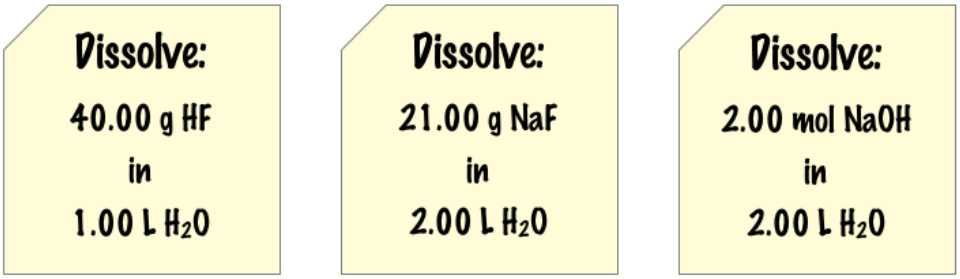
Question 32
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 0.25 M? Select all that apply.



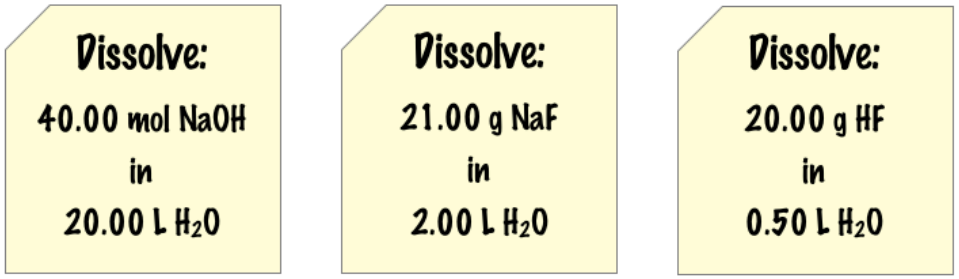
Question 33
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 0.25 M? Select all that apply.



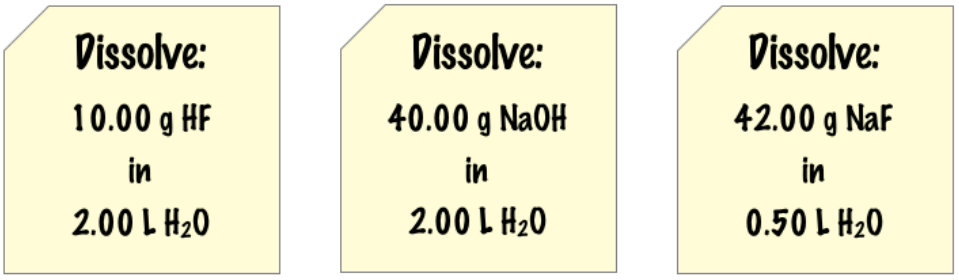
Question Group 12
Question 34
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



Question 35
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



Question 36
Three aqueous solutions are made by following the directions shown on the *Notes*. Which solutions would have a solute concentration of 2.00 M? Select all that apply.



Activity 3: Solve It
Question Group 13
Question 37
A solution is made by dissolving 43.7 grams of $Al(OH)_3$ in 100.0 mL of solution. Fill in the blanks and determine the molar concentration of $Al(OH)_3$.

Question 38
A solution is made by dissolving 21.7 grams of NaF in 100.0 mL of solution. Fill in the blanks and determine the molar concentration of NaF.

Question 39
A solution is made by dissolving 32.7 grams of NaOH in 100.0 mL of solution. Fill in the blanks and determine the molar concentration of NaOH.

Question 40
A solution is made by dissolving 51.8 grams of $NaNO_3$ in 100.0 mL of solution. Fill in the blanks and determine the molar concentration of $NaNO_3$.

Question 41
A solution is made by dissolving 35.2 grams of HNO_3 in 100.0 mL of solution. Fill in the blanks and determine the molar concentration of HNO_3.

Question Group 14
Question 41
A solution is made by dissolving 52.7 grams of $Al(OH)_3$ in 250.0 mL of solution. Fill in the blanks and determine the molar concentration of $Al(OH)_3$.

Question 42
A solution is made by dissolving 36.1 grams of NaF in 250.0 mL of solution. Fill in the blanks and determine the molar concentration of NaF.

Question 43
A solution is made by dissolving 34.7 grams of NaOH in 250.0 mL of solution. Fill in the blanks and determine the molar concentration of NaOH.

Question 44
A solution is made by dissolving 62.6 grams of $NaNO_3$ in 250.0 mL of solution. Fill in the blanks and determine the molar concentration of $NaNO_3$.

Question 45
A solution is made by dissolving 71.5 grams of HNO_3 in 250.0 mL of solution. Fill in the blanks and determine the molar concentration of HNO_3.

Question Group 15
Question 46
A solution is made by dissolving 56.5 grams of $Al(OH)_3$ in 400.0 mL of solution. Fill in the blanks and determine the molar concentration of $Al(OH)_3$.

Question 47
A solution is made by dissolving 38.5 grams of NaF in 400.0 mL of solution. Fill in the blanks and determine the molar concentration of NaF.

Question 48
A solution is made by dissolving 42.1 grams of NaOH in 400.0 mL of solution. Fill in the blanks and determine the molar concentration of NaOH.

Question 49
A solution is made by dissolving 71.9 grams of $NaNO_3$ in 400.0 mL of solution. Fill in the blanks and determine the molar concentration of $NaNO_3$.

Question 50
A solution is made by dissolving 82.6 grams of HNO_3 in 400.0 mL of solution. Fill in the blanks and determine the molar concentration of HNO_3.

Question Group 16
Question 51
A solution is made by dissolving 62.7 grams of $Al(OH)_3$ in 500.0 mL of solution. Fill in the blanks and determine the molar concentration of $Al(OH)_3$.

Question 52
A solution is made by dissolving 44.9 grams of NaF in 500.0 mL of solution. Fill in the blanks and determine the molar concentration of NaF.

Question 53
A solution is made by dissolving 56.1 grams of NaOH in 500.0 mL of solution. Fill in the blanks and determine the molar concentration of NaOH.

Question 54
A solution is made by dissolving 78.3 grams of $NaNO_3$ in 500.0 mL of solution. Fill in the blanks and determine the molar concentration of $NaNO_3$.

Question 55
A solution is made by dissolving 91.2 grams of HNO_3 in 500.0 mL of solution. Fill in the blanks and determine the molar concentration of HNO_3.