

## Which One Doesn't Belong – Acid-Base Properties

### Question Group 1

#### Question 1

One of these representations is not like the others. Which one doesn't belong?



The pH is  
greater  
than 7.

The solution  
turns litmus  
paper **red**.

#### Question 2

One of these representations is not like the others. Which one doesn't belong?

The solution  
turns litmus  
paper **blue**.



The pH is  
less than  
7.

### Question 3

One of these representations is not like the others. Which one doesn't belong?

The pH is  
greater  
than 7.

The solution  
turns litmus  
paper **red**.



### Question Group 2

#### Question 4

One of these representations is not like the others. Which one doesn't belong?



The solution  
turns litmus  
paper **blue**.

The pH is  
less  
than 7.

### Question 5

One of these representations is not like the others. Which one doesn't belong?

The pH is  
greater  
than 7.



The solution  
turns litmus  
paper **red**.

### Question 6

One of these representations is not like the others. Which one doesn't belong?

The solution  
turns litmus  
paper **blue**.

The pH is  
less  
than 7.

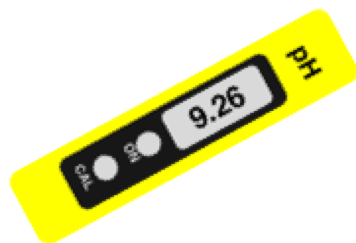


### Question Group 3

#### Question 7

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The  
solution is  
basic.



#### Question 8

One of these representations is not like the others. Which one doesn't belong?

The bottle label says



Meter Reading:



The  
solution is  
acidic.

### Question 9

One of these representations is not like the others. Which one doesn't belong?

The  
solution is  
basic.

Meter Reading:



### Question Group 4

#### Question 10

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The  
solution is  
acidic.



### Question 11

One of these representations is not like the others. Which one doesn't belong?



Meter Reading:



The  
solution is  
acidic.

### Question 12

One of these representations is not like the others. Which one doesn't belong?

The  
solution is  
basic.



Meter Reading:



## Question Group 5

### Question 13

One of these representations is not like the others. Which one doesn't belong?

The pH value  
is greater  
than the pOH  
value.

Meter Reading:



The solution  
turns litmus  
paper **red**.

The  $[H_3O^+]$   
is greater  
than the  
 $[OH^-]$ .

### Question 14

One of these representations is not like the others. Which one doesn't belong?

The pH value  
is greater  
than the pOH  
value.

The  $[\text{H}_3\text{O}^+]$   
is greater  
than the  
 $[\text{OH}^-]$ .

Meter Reading:



The solution  
turns litmus  
paper **blue**.

### Question 15

One of these representations is not like the others. Which one doesn't belong?

The solution  
turns litmus  
paper **red**.

The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

The pH value  
is greater  
than the pOH  
value.

Meter Reading:



## Question Group 6

### Question 16

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The pH value  
is less than  
the pOH  
value.

The solution  
turns litmus  
paper **blue**.

The  $[\text{H}_3\text{O}^+]$   
is greater  
than the  
 $[\text{OH}^-]$ .

### Question 17

One of these representations is not like the others. Which one doesn't belong?

The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

Meter Reading:



The pH value  
is less than  
the pOH  
value.

The solution  
turns litmus  
paper **red**.

### Question 18

One of these representations is not like the others. Which one doesn't belong?

The solution  
turns litmus  
paper **blue**.

The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

Meter Reading:



The pH value  
is less than  
the pOH  
value.

## Question Group 7

### Question 19

One of these representations is not like the others. Which one doesn't belong?

The  $[\text{OH}^-]$   
is greater  
than the  
 $[\text{H}_3\text{O}^+]$ .

Has a  
slippery  
feel.



$[\text{H}_3\text{O}^+] =$   
 $8.5 \times 10^{-3} \text{ M}$

## Question 20

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The  $[\text{OH}^-]$   
is less  
than the  
 $[\text{H}_3\text{O}^+]$ .

$$[\text{H}_3\text{O}^+] = 8.5 \times 10^{-3} \text{ M}$$



## Question 21

One of these representations is not like the others. Which one doesn't belong?

The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

$$[\text{H}_3\text{O}^+] = 4.5 \times 10^{-10} \text{ M}$$

Meter Reading:



Has a  
slippery  
feel.

## Question Group 8

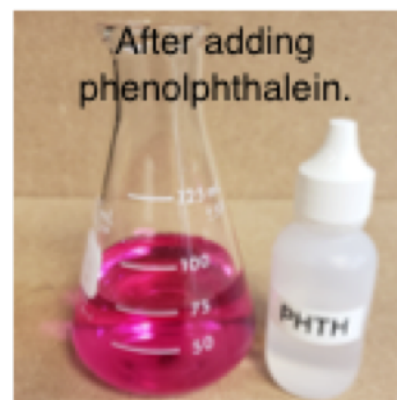
### Question 22

One of these representations is not like the others. Which one doesn't belong?

Reacts with  
Mg to  
produce  $\text{H}_2$   
gas.

The  $[\text{H}_3\text{O}^+]$   
is greater  
than the  
 $[\text{OH}^-]$ .

Meter Reading:



### Question 23

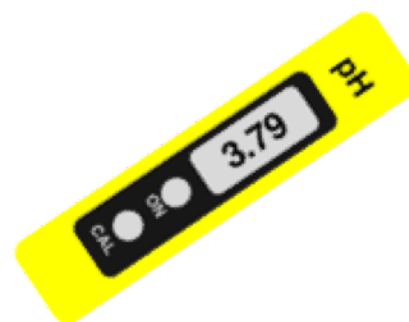
One of these representations is not like the others. Which one doesn't belong?

$$[\text{OH}^-] = 9.2 \times 10^{-5} \text{ M}$$

Reacts with  
Mg to  
produce  $\text{H}_2$   
gas.



Meter Reading:



## Question 24

One of these representations is not like the others. Which one doesn't belong?

Has a  
slippery  
feel.

Meter Reading:



$[\text{OH}^-] =$

$4.5 \times 10^{-10} \text{ M}$

## Question Group 9

### Question 25

One of these representations is not like the others. Which one doesn't belong?

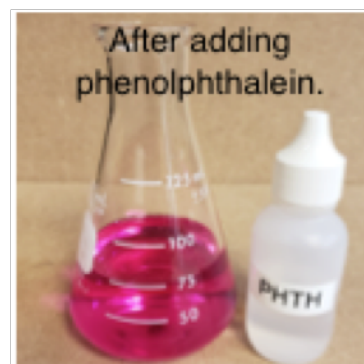
$$[\text{OH}^-] = 4.5 \times 10^{-10} \text{ M}$$



Turns pH  
paper ...



The pH value  
is greater  
than the pOH  
value.



## Question 26

One of these representations is not like the others. Which one doesn't belong?

Turns pH  
paper ...



The solution  
turns litmus  
paper **blue**.



$$[\text{OH}^-] = 9.2 \times 10^{-5} \text{ M}$$

### Question 27

One of these representations is not like the others. Which one doesn't belong?

Turns pH  
paper ...



Reacts  
with metals  
to produce  
 $\text{H}_2$  gas.

The  $[\text{H}_3\text{O}^+]$   
is greater  
than the  
 $[\text{OH}^-]$ .

Has a  
sour  
taste.



## Question Group 10

### Question 28

One of these representations is not like the others. Which one doesn't belong?

The pH value  
is less than  
the pOH  
value.

Meter Reading:



Turns pH  
paper ...



The solution  
turns litmus  
paper **blue**.

## Question 29

One of these representations is not like the others. Which one doesn't belong?



Reacts  
with metals  
to produce  
 $\text{H}_2$  gas.

The pOH  
is less  
than 7.

The pH value  
is less than  
the pOH  
value.

Turns pH  
paper ...



### Question 30

One of these representations is not like the others. Which one doesn't belong?

Tastes  
sour.

Turns pH  
paper ...



The pH value  
is less than  
the pOH  
value.



## Question Group 11

### Question 31

One of these representations is not like the others. Which one doesn't belong?

The pH of  
the  
solution is  
8.5.

The pH value  
is greater  
than the pOH  
value.

Meter Reading:



The solution  
turns litmus  
paper **blue**.



### Question 32

One of these representations is not like the others. Which one doesn't belong?



The solution turns litmus paper **red**.

Meter Reading:



The pH of the solution is 4.5.

The pH value is greater than the pOH value.

### Question 33

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

The pOH  
of the  
solution is  
8.5.



The solution  
turns litmus  
paper **red**.

## Question Group 12

### Question 34

One of these representations is not like the others. Which one doesn't belong?

The solution  
turns litmus  
paper **blue**.

Meter Reading:



The pH value  
is less than  
the pOH  
value.

The pOH  
of the  
solution is  
4.5.

The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

### Question 35

One of these representations is not like the others. Which one doesn't belong?

The pOH  
of the  
solution is  
4.5.



The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

The pH value  
is less than  
the pOH  
value.

The solution  
turns litmus  
paper **blue**.

### Question 36

One of these representations is not like the others. Which one doesn't belong?

Meter Reading:



The  $[\text{H}_3\text{O}^+]$   
is less than  
the  $[\text{OH}^-]$ .

The solution  
turns litmus  
paper **red**.



The pOH  
of the  
solution is  
4.5.