

Quiz 16.2 – pH and pOH calculations

Name: Key

Question 1

Find the pH given the following values of $[H_3O^+]$

$[H_3O^+] = 1.5 \times 10^{-3}$

2.82

$[H_3O^+] = 3.7 \times 10^{-8}$

7.73

$[H_3O^+] = 4.6 \times 10^{-13}$

12.34

$[H_3O^+] = 9.2 \times 10^{-2}$

1.04

Question 2

Find $[H_3O^+]$ for solutions with the following values of pH

pH = 2.71

$1.9 \cdot 10^{-3} M$

pH = 7.64

$2.3 \cdot 10^{-8} M$

pH = 9.45

$3.5 \cdot 10^{-10} M$

pH = 13.24

$5.8 \cdot 10^{-14} M$

Question 3

Fill in the missing values in the following table:

$[H_3O^+]$ (M)	pH	$[OH^-]$ (M)	pOH
1.3	-0.11	$7.8 \cdot 10^{-15}$	14.11
$1.4 \cdot 10^{-4}$	3.86	$7.2 \cdot 10^{-11}$	10.14
$1.4 \cdot 10^{-11}$	10.86	7.3×10^{-4}	3.14
$2.1 \cdot 10^{-8}$	7.68	$4.8 \cdot 10^{-7}$	6.32
9.2×10^{-11}	10.04	$1.1 \cdot 10^{-4}$	3.96
$2.3 \cdot 10^{-13}$	12.64	0.044	1.36
0.016	1.80	6.3×10^{-13}	12.20
$2.2 \cdot 10^{-4}$	3.66	$4.6 \cdot 10^{-11}$	10.34