

TYPES OF pH PROBLEMS

1. If given $[H^+]$, & you want to solve for pH, then plug into $pH = -\log [H^+]$

Follow these keystrokes,

In sci calc., in 2.5, EE or EXP 4, +/-, log

In graphing, (-), log, 2.5 EE (-) 4 =

ex. $[H^+] = 2.5 \times 10^{-4}$ what is the pH?

$$pH = -\log [2.5 \times 10^{-4}]$$

$$pH = 3.6 \text{ (acidic)}$$

2. If given pH and you want to find the $[H^+]$ then:

Follow these keystrokes,

In sci calc., 3.6, +/-, INV or 2nd func, log

In graphing, 2nd func, log (means: 10^x or antilog, (-), 3.6

ex. WORK BACKWARD $10^{(-pH)} = [H^+]$

$$pH = 3.6$$

$$3.6 = -\log [H^+]$$

$$2.5 \times 10^{-4} = [H^+]$$

3. If given $[OH^-]$, plug it into $pOH = -\log[OH^-]$ ----just like example 1

4. If given pOH and you want to find the $[OH^-]$ ----just like example 2

$$5. pH + pOH = 14$$

NOTES:

SUBSTANCE	pH	pOH	[H ⁺]	[OH ⁻]
Baking soda	8.4			
Bleach			3.16×10^{-13}	
Coffee			1.0×10^{-5}	
blood				2.0×10^{-7}
Hand soap	9.5			
Juice (tomato)		10.0		
Great Salt Lake				1.0×10^{-10}
Shampoo		5.9		
Stomach acid	1.8			
Seawater		6.0		