

8. Most acidic solutions of interest have a hydrogen ion conc of less than 1M

The log of this conc would always be a negative #. Taking the negative log, ensures that the pH value will be positive

$$\begin{aligned} 9. \text{pOH} &= 12.4 & \text{pOH} &= 14 - \text{pH} \\ & & &= 14 - 12.4 \\ & & &= 1.6 \end{aligned}$$

$$10. \text{pH} = 3$$

$$[\text{H}^+] = 1 \times 10^{-3} \text{M}$$