1. Calculate the pH of a solution with $[H^+] = 5 \times 10^{-5}$ M.

   $\text{pH} = 4.3$

2. Calculate the pH of a solution with $[H^+] = 1$ M.

   $\text{pH} = 0$

3. Calculate the pH of a 0.01 M solution of HCl.

   $\text{pH} = 2$

4. Calculate the pH of a 0.05 M solution of NaOH.

   $\text{pH} = 1.30$

5. Calculate the pH of a $7.5 \times 10^{-6}$ M solution of Mg(OH)$_2$.

   $\text{pH} = 9.176$


   $[H^+] = 10^{-3}$ M
7. Find [OH\(^-\)] of a solution with pH = 8.

\[[OH^-] = 10^{-6} \text{ M}\]

8. A 1.0 L solution of HCl has a pH = 1. How many liters of distilled water must be added to change the pH to 2?

9 Liters

9. 6 g of LiOH is added to water to make 500 ml of solution. What is the pH?

\[pH = 13.7\]

10. What volume of 0.05 M HI is required to neutralize 50 ml of 0.01 M Ca(OH)\(_2\) solution?

20 ml