The pH Scale – Reading Guide

*section 14.2 in OpenStax*

Describe how pH and pOH are defined and how the quantities are related.

pH = pOH = pH + pOH = \_\_\_\_\_\_\_\_\_\_

Complete the table below to describe aqueous solutions.

|  |  |  |
| --- | --- | --- |
| Classification | Relative ion concentration | pH at 25 °C |
|  |  | pH < 7 |
| Neutral | [H3O+] = [OH–] |  |
|  |  | pH > 7 |

Calculate the pH of a solution with a hydronium ion concentration of 1.2 x 10-4 *M*. Is this solution acidic or basic?

*(ans. pH=3.9, acidic)*

Calculate the pH of a solution with a hydroxide ion concentration of 2.5 x 10-6 *M*. Is this solution acidic or basic?

*(ans. pH=8.4, basic)*

Calculate the hydronium ion concentration for a solution with a pH = 7.96.

*(ans. 1.09 x 10-8 M)*

**End of Chapter 14 Practice Problems**

#21, 23, 25

For detailed solutions to these problems, go to the [OpenStax website](https://openstaxcollege.org/textbooks/chemistry/resources) and download the “Student Answer and Solution Guide.”