

Name : Date :

—○ pH Worksheet ○—

1. Write the equation for the dissociation of hydrochloric acid.
2. Find the pH of a 0.00476 M hydrochloric acid solution.
3. Write the equation for the dissociation of sulfuric acid.
4. Find the pH of a solution that contains 3.25 g of H_2SO_4 dissolved in 2.75 liters of solution.
5. What is the pH of a 0.0235 M HCl solution?
6. What is the pOH of a 0.0235 M HCl solution?
7. What is the pH of a 6.50×10^{-3} M KOH solution?
8. What is the pH of a 6.2×10^{-5} M NaOH solution?

—○ pH Worksheet ○—

1. Write the equation for the dissociation of hydrochloric acid.



2. Find the pH of a 0.00476 M hydrochloric acid solution.

$$\text{pH} = -\log [\text{H}^+] = -\log (0.00476) = 2.32$$

3. Write the equation for the dissociation of sulfuric acid.



4. Find the pH of a solution that contains 3.25 g of H_2SO_4 dissolved in 2.75 liters of solution.

$$\text{Number of moles} = (3.25 \text{ g} / 98 \text{ g/mol}) = 0.0332 \text{ mol}$$

$$\text{Molarity, M} = (0.0332 \text{ mol} / 2.75 \text{ L}) = 0.0121 \text{ M}$$

$$[\text{H}^+] = 2 \times 0.0121 = 0.0242 \text{ M}$$

$$\text{pH} = -\log (0.0242) = 1.6$$

5. What is the pH of a 0.0235 M HCl solution?

$$\text{pH} = -\log [\text{H}^+] = -\log (0.0235) = 1.629$$

6. What is the pOH of a 0.0235 M HCl solution?

$$\text{pH} = -\log [\text{H}^+] = -\log (0.0235) = 1.629$$

$$\text{pOH} = 14 - \text{pH} = 14 - 1.629 = 12.371$$

7. What is the pH of a 6.50×10^{-3} M KOH solution?

$$\text{pOH} = -\log [\text{OH}^-] = -\log (6.50 \times 10^{-3}) = 2.187$$

$$\text{pH} = 14 - \text{pOH} = 14 - 2.187 = 11.813$$

8. What is the pH of a 6.2×10^{-5} M NaOH solution?

$$\text{pOH} = -\log [\text{OH}^-] = -\log (6.2 \times 10^{-5}) = 4.21$$

$$\text{pH} = 14 - \text{pOH} = 14 - 4.21 = 9.79$$