

Test Bank Chapter (15)

Choose the most correct answer:

1- What is the concentration of H^+ in a 2.5 M HCl solution?

- a) 0
- b) 1.3 M
- c) 2.5 M
- d) 5.0 M

2. What is the OH^- ion concentration in a 5.2×10^{-4} M HNO_3 solution?

- a) 1.9×10^{-11} M
- b) 1.0×10^{-7} M
- c) 5.2×10^{-4} M
- d) Zero

3. Calculate the H^+ ion concentration in lemon juice having a pH of 2.4

- a) 4.0×10^{-2} M
- b) 250 M
- c) 0.38 M
- d) 4.0×10^{-3} M

4. Calculate the pH of a 6.71×10^{-2} M NaOH solution.

- a) 12.83
- b) 2.17
- c) 11.82
- d) 6.71

5. What is the pH of 0.0200 M aqueous solution of HBr?

- a) 1.00
- b) 1.70
- c) 2.30
- d) 12.30

6. The pOH of a solution of NaOH is 11.30, what is the $[H^+]$ for this solution?

- a) 2.0×10^{-3}
- b) 2.5×10^{-3}
- c) 5.0×10^{-12}
- d) 4.0×10^{-12}

7. What is the pH of a 0.04 M aqueous solution of KOH?
- a) 12.60
 - b) 10.30
 - c) 4.00
 - d) 1.40
8. What is the approximate pH of a solution labeled 6×10^{-5} M HBr?
- a) 4.2
 - b) 4.5
 - c) 5.8
 - d) 9.8
9. If the pH = 2 for an HNO₃ solution, what is the concentration of HNO₃?
- a) 0.10
 - b) 0.20
 - c) 0.010
 - d) 0.020
10. A solution in which $[H^+] = 10^{-8}$ M has a pH of ____ and is ____.
- a) 8, acidic
 - b) 6, basic
 - c) -6, basic
 - d) 8, basic
11. Which of the following solutions has the lowest pH at 25°C? (No calculations required.)
- a) 0.2 M NaOH
 - b) 0.2 M NH₃
 - c) 0.2 M HCl
 - d) pure water
12. Calculate the pH of a 3.5×10^{-3} M HNO₃ solution.
- a) -2.46
 - b) 0.54
 - c) 2.46
 - d) 3.00
13. The pH of 2.6×10^{-2} M KOH is
- a) 12.41
 - b) 15.59
 - c) 2.06
 - d) 7.00

14. What is the $[\text{H}^+]$ ion in a 4.8×10^{-2} M KOH solution?

- a) 2.08×10^{-13} M
- b) 1×10^{-7} M
- c) 4.8×10^{-11} M
- d) 4.8×10^{-2} M

15. What is the $[\text{OH}^-]$ ion in a 5.2×10^{-4} M HNO_3 solution?

- a) 1.9×10^{-11} M
- b) 1.0×10^{-7} M
- c) 5.2×10^{-4} M
- d) zero