Worksheet 02 – Introduction to pH Calculations

Convert $[H^+]$ to pH. Convert $[OH^-]$ to pOH. Identify each solution as acidic or basic.

1. $[H^+] = 1.0 \times 10^{-6}$ pH = _____ Acid/Base? _____
2. $[OH^-] = 1.0 \times 10^{-4}$ pOH = _____ Acid/Base? _____
3. $[H^+] = 1.0 \times 10^{-12}$ pH = _____ Acid/Base? _____
4. $[OH^-] = 1.0 \times 10^{-2}$ pOH = _____ Acid/Base? _____
5. $[H^+] = 1.0 \times 10^{-2}$ pH = _____ Acid/Base? _____
6. $[OH^-] = 1.0 \times 10^{-5}$ pOH = _____ Acid/Base? _____

What are the hydrogen-ion concentrations for solutions with the following pH values?

7. pH = 6.00 $[H^+]$ = _____
8. pH = 7.00 $[H^+]$ = _____
9. pH = 2.00 $[H^+]$ = _____
10. pH = 10.00 $[H^+]$ = _____
11. pH = 3.00 $[H^+]$ = _____

What are the hydroxide-ion concentrations for solutions with the following pH values?

12. pH = 6.00 $[OH^-]$ = _____
13. pH = 7.00 $[OH^-]$ = _____
14. pH = 2.00 $[OH^-]$ = _____
15. pH = 10.00 $[OH^-]$ = _____
16. pH = 3.00 $[OH^-]$ = _____