Answers to Practice Problems C in page 545

Answers to Practice Problems C

1. $[H_3O^+] = 5.0 \times 10^{-4}$ M
2. $[OH^-] = 5.0 \times 10^{-3}$ M
3. $[H_3O^+] = 7.9 \times 10^{-9}$ M; $[OH^-] = 1.3 \times 10^{-6}$ M
4. $[H_3O^+] = 2.14 \times 10^{-8}$ M; $[OH^-] = 4.7 \times 10^{-7}$ M. The hydroxide ion concentration of 4.7×10^{-7} M does lie somewhat outside the normal range. The patient has mild alkalosis and should be concerned.

Homework — GENERAL

Additional Practice

1. What is the hydronium ion concentration of lemon juice, which has a pH of 2.25?
   Ans. 5.6×10^{-3} M
2. Milk of magnesia has a pH of 10.65. What is $[H_3O^+]$? What is $[OH^-]$? Ans. 2.2×10^{-11} M; 4.5×10^{-4} M
3. Determine the concentrations of hydronium ion and hydroxide ion in stomach acid, which has a pH of 2.0. Ans. $[H_3O^+] = 0.01$ M; $[OH^-] = 1 \times 10^{-12}$ M

LS Logical