Henderson-Hasselbalch Equation

$$HA \rightleftharpoons H^+ + A^-$$

$$K_a = \frac{[H^+][A^-]}{[HA]} \qquad [H^+] = \frac{K_a[HA]}{[A^-]}$$

$$-\log[H^+] = -\log K_a + \log\frac{[A^-]}{[HA]}$$

$$pH = pK_a + \log\frac{[A^-]}{[HA]}$$