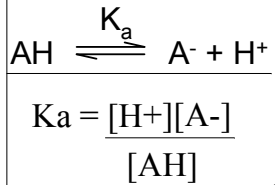


INCOMPLETE DISSOCIATION



BUT $[H^+] = [A^-]$

$$\therefore K_a = \frac{[H^+]^2}{[AH]}$$

$$\therefore [H^+]^2 = K_a[AH]$$

$$\text{so } [H^+] = \sqrt{K_a[AH]}$$

WEAK

STRONG

Complete dissociation
 $[OH^-]$ = original base conc.

STRONG

Complete dissociation
 $[H^+]$ = original acid conc.

provides H^+ = proton donor

ACID

BASE

proton acceptor = absorbs H^+

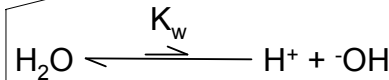
$$pH = 14 - pOH$$

$$pK_w = 14 \text{ @ } 298K$$

$$pH = pK_w - pOH$$

$$pK_w = pOH + pH$$

$$K_w = [OH^-][H^+]$$



WEAK

