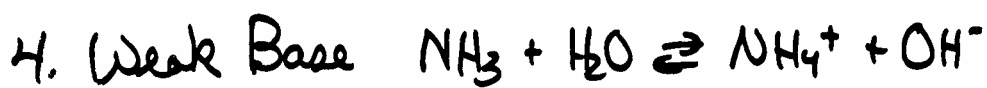
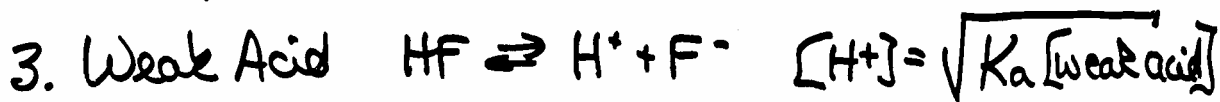
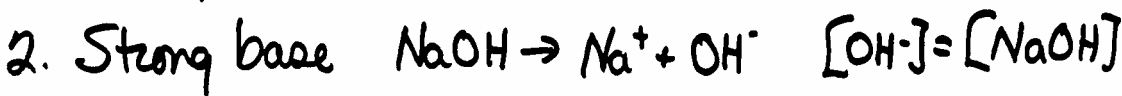


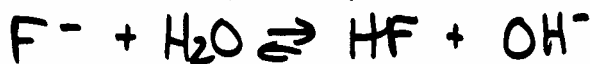
Nine

~~Eight~~ Systems

1. Strong acid $\text{HCl} \rightarrow \text{H}^+ + \text{Cl}^-$ $[\text{H}^+] = [\text{HCl}]$

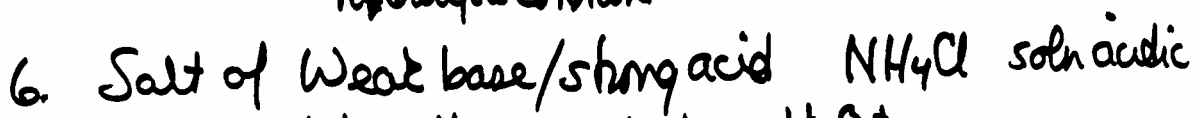


$$[\text{OH}^-] = \sqrt{K_b [\text{weak base}]}$$



$$[\text{OH}^-] = \sqrt{\frac{K_b}{K_a}} [\text{F}^-]$$

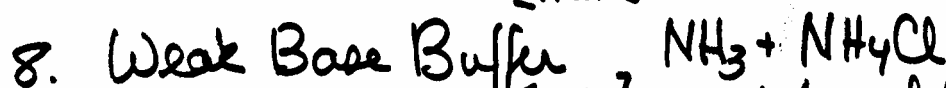
hydrolysis constant



$$[H^+] = \sqrt{K_w / K_b [NH_4^+]}$$



$$[H^+] = K_a \frac{[HF]}{[NaF]} = K_a \frac{\text{moles HF}}{\text{moles NaF}}$$



$$[\text{OH}^-] = K_b \frac{[\text{NH}_3]}{[\text{NH}_4\text{Cl}]} = K_b \frac{\text{mol NH}_3}{\text{mol NH}_4\text{Cl}}$$



pH = 7