Titration Curves

Weak Base	+	Strong Acid
0.1 M NH_3		0.1 M HCl
25.0 mL		10.0 mL
2.5×10^{-3} mol	-	1.0×10^{-3} mol = 1.5×10^{-3} mol

V = 25 + 10 mL

$NH_3 + H_2O \leftrightarrows NH_4^+ + OH^-$

$x = 2.67 \times 10^{-5}$ pOH = 4.57

pH = 9.43

$$K_b = 1.8 \times 10^{-5} = \frac{[NH_4^+][OH^-]}{[NH_3]}$$

$[NH_3]$	$[NH_4+]$	$[OH^-]$
0.043	0.029	0.0
0.043 -x	0.029 + x	x

$$1.8 \times 10^{-5} = \frac{[x]\ [0.029 + x]}{[0.043 - x]}$$