

(7.18) 0.1 mole HProp, 0.13 mole NaProp in 1.5 l

① $pH = pK_a + \log \left(\frac{[b]}{[a]} \right)$ $K_a = 1.3 \times 10^{-5}$

$pH = -\log(1.3 \times 10^{-5}) + \log \frac{\frac{0.13 \text{ mole}}{1.5 \text{ l}}}{\frac{0.1 \text{ mole}}{1.5 \text{ l}}}$

$pH = 5$

+ 0.114

Mar 10-7:36 AM

(b) Buffer + 0.01 mole NaOH

① Next. (MOLES!) Buffer 0.1 mole HProp, 0.13 NaProp

① $HX + OH^- \rightarrow X^- + H_2O$
 $HProp + OH^- \rightarrow Prop^- + H_2O$

	I	0.10	0.01		
	D	-0.01	-0.01		
	E	0.09		0.14	
		<u>1.5 l</u>		<u>1.5 l</u>	

② Real New M $0.06M HProp + 0.093M Prop^-$

③ Buffer $\rightarrow WA + CB \leftarrow$ Buffer by 1 H^+

$pH = -\log(1.3 \times 10^{-5}) + \log \frac{0.093}{0.06}$

$pH = 5.076$

Mar 10-8:00 AM



Mar 10-8:12 AM



Mar 10-8:15 AM

① Add 0.01 mole HI $\text{HI} \rightarrow \text{H}^+ + \text{I}^-$
 $\text{H}^+ = 0.01$ $\text{I}^- = 0.01$

$\text{X}^- + \text{H}_3\text{O}^+ \rightarrow \text{HX} + \text{H}_2\text{O}$ p 727

② New Molar

	Prop^-	H_3O^+	HProp	H_2O
I	0.13	0.01	0.1	
A	-0.01	-0.01	+0.01	
F	0.12		0.11	

③ Recal New M

0.08M Prop^- CB + 0.0733M HProp WA

③ $\text{pH} = \text{pK}_a + \log \frac{b}{a}$
 $= -\log(1.3 \times 10^{-7}) + \log \frac{0.08}{0.073}$
 $= 4.9258$

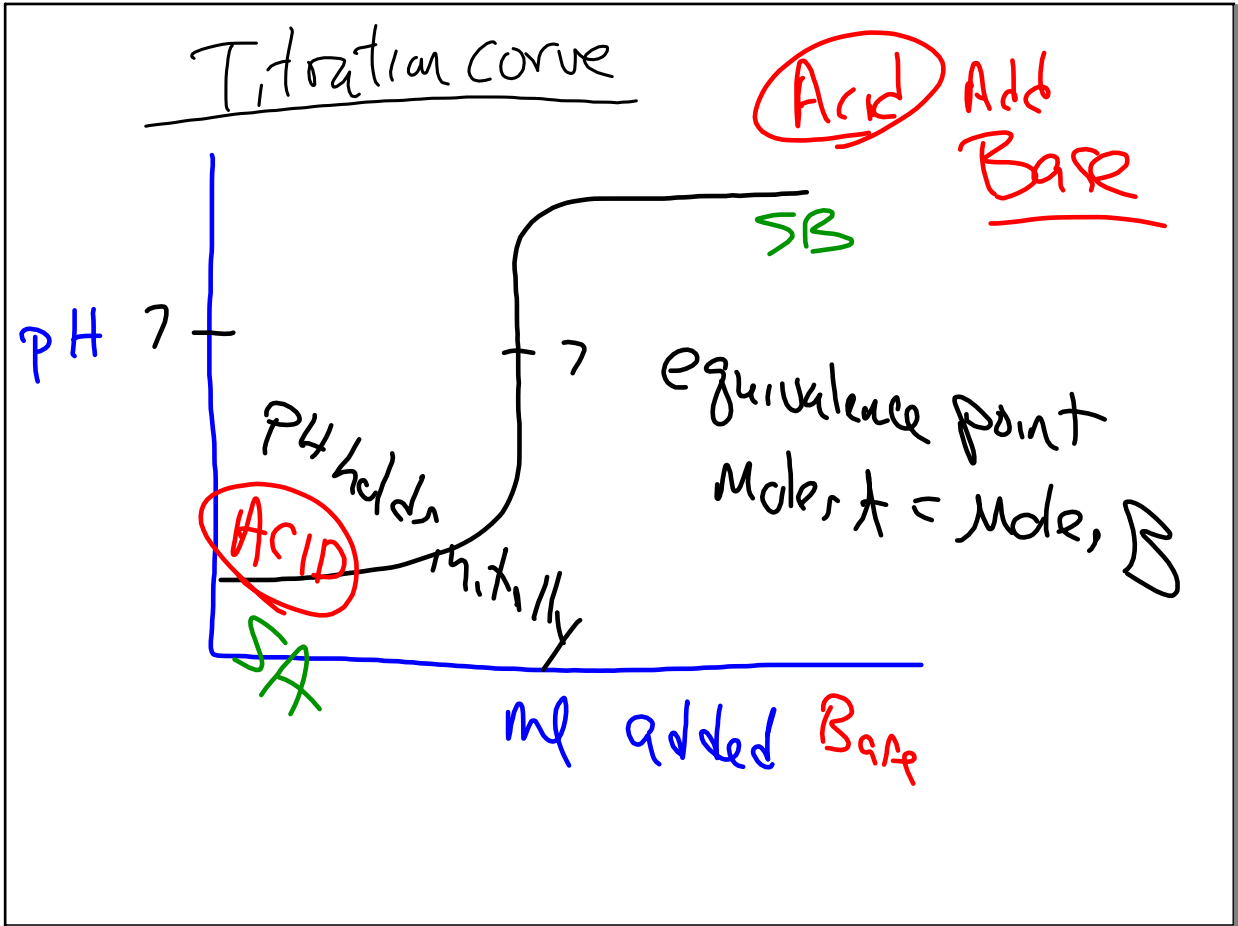
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Acid - Base Titrations

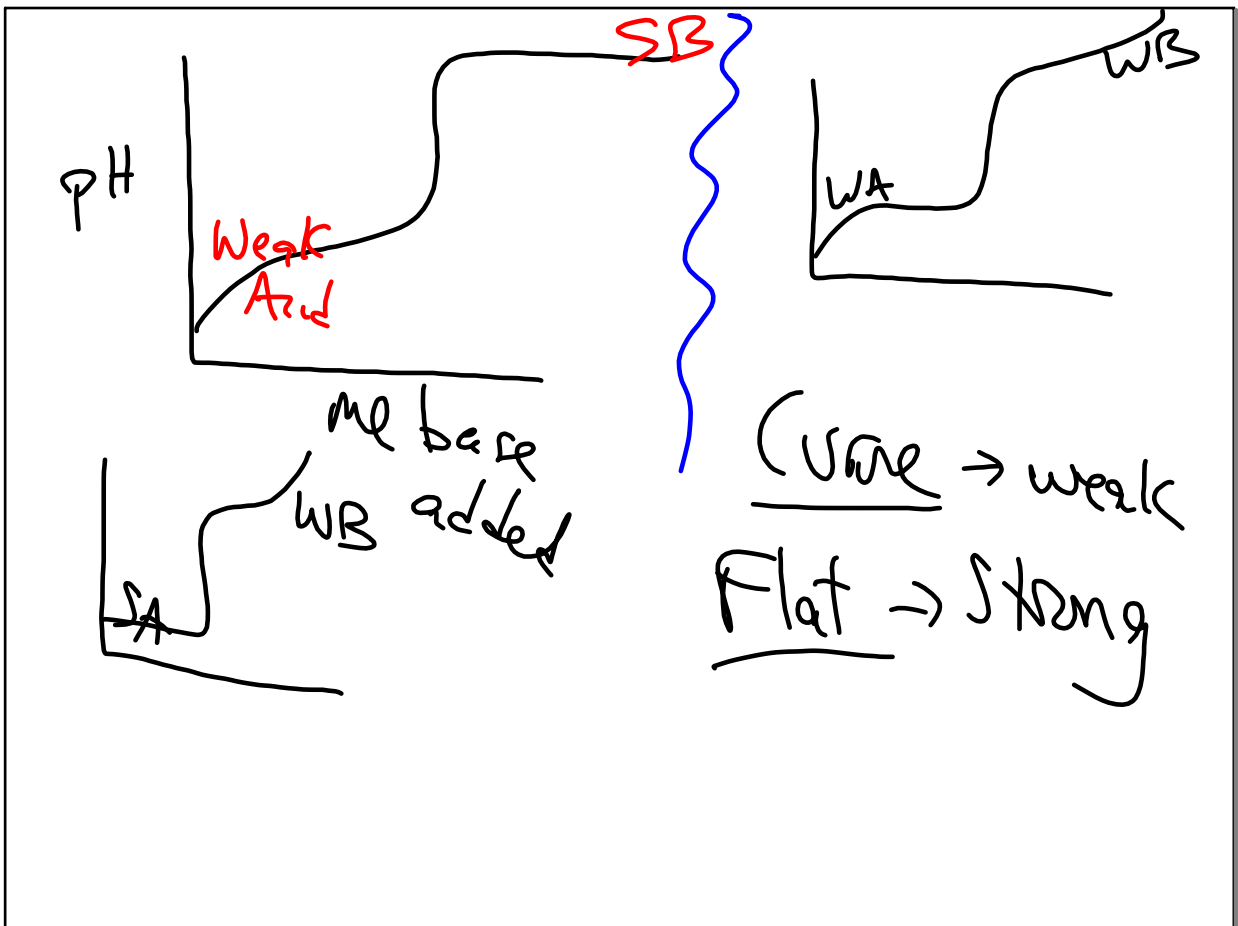
① Mols acid = Mols Base

$N_a \times M_a \times l_a = N_b \times M_b \times l_b$

Mar 10-8:17 AM



Mar 10-8:18 AM



Mar 10-8:20 AM

Titration

- ① Convert to moles
- ② Subt smaller #
- ③ Recalc M → Find pH
of what's left. $pH = -\log[H^+]$

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$$17/36 + 40a$$

Mar 10-8:25 AM