

Titration Add A to B } Δ pH
 OR
 B to A } Δ pH

Neutralization A + B \rightarrow Salt + water
 pH \approx 7

End pH?

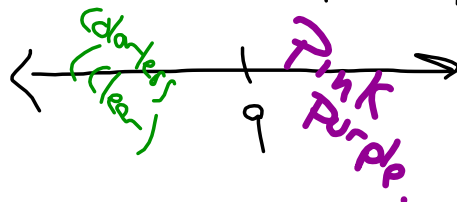
Power of H⁺ strength

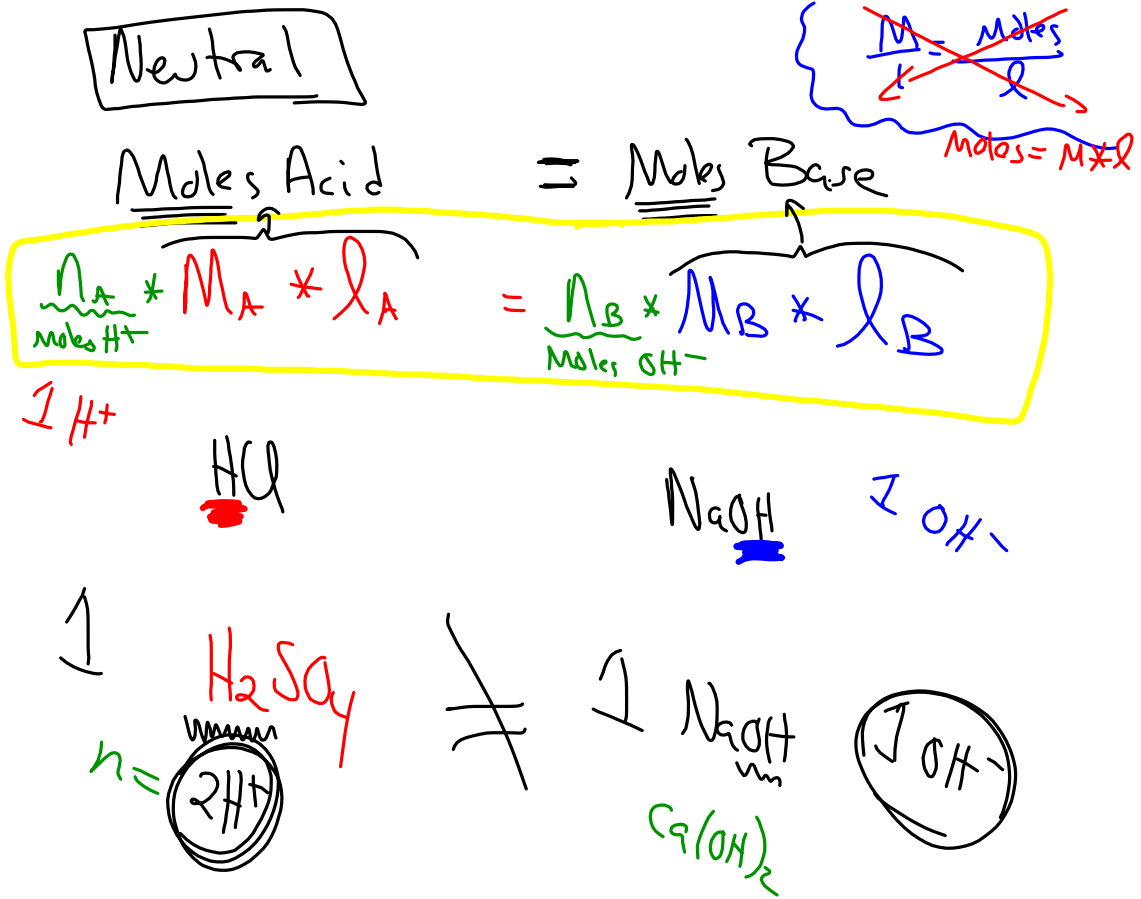
* ① pH meter (electronically measures pH)

② Indicator

↳ color change

Phenolphthalein Δ pH \approx 9





Some 0.1 M H_2SO_4

33.3 ml 0.3M NaOH needed to neutralize?

PH \approx 7

$n M l = n M l$

$$\frac{(2)(0.1)(\text{some})}{0.3} = \frac{(1)(0.3)(\text{ml})}{0.3}$$

SUPA level 50ml 0.1M NaOH + 49ml 0.1M HCl
 5×10^{-3} mole NaOH

PH of final soln?

① Neut using moles!

	^{SB} NaOH	+	^{SA} HCl	→	NaCl	+	H ₂ O
I	5×10^{-3} mole		4.9×10^{-3} mole				
Δ	-4.9×10^{-3} mole		-4.9×10^{-3}				
E	0.1×10^{-3} mole NaOH						

Neut

② Recalc new M

$$\frac{0.1 \times 10^{-3} \text{ mole NaOH}}{99 \times 10^{-3} \text{ l}} = 1.01 \times 10^{-3} \text{ M NaOH}$$

$$= [\text{OH}^-]$$

$$\text{pOH} = -\log [\text{OH}^-]$$

PH = 11

30ml 0.1M NaOH + 50ml 0.1M HoAc
^{SB} ^{WA}

① Neut - moles

	OH⁻	+	HoAc	→	Ac⁻	+	H ₂ O
I	3×10^{-3}		5×10^{-3}				
Δ	-3×10^{-3}		-3×10^{-3}		$+3 \times 10^{-3}$		
E			2×10^{-3}		3×10^{-3}		

moles

$$\frac{17}{40} a + b$$
$$\frac{42}{40} a + b$$