

$$\text{use: } [\text{H}^+] = \frac{k_a[\text{HA}]}{[\text{A}^-]}$$

$$\text{use: } \text{pH} = -\log_{10}[\text{H}^+]$$

divide by total volume  
to give concentrations

number of moles of  
 $\text{A}^-$  = number of moles  
of MOH

calculate the number of  
moles of HA and the  
number of moles of  
MA

number of moles of  
HA left = number of moles  
of HA - number of moles  
of MOH

MOLES OF  
HA

MOLES  
OF OH<sup>-</sup>

number of moles of OH<sup>-</sup>  
left = number of moles  
of MOH - number of  
moles of HA

divide by total volume  
to give  $[\text{OH}^-]$

$$\text{use: } \text{Kw} = [\text{H}^+][\text{OH}^-]$$

$$(\text{Kw} = 1 \times 10^{-14} \text{ mol}^2 \text{dm}^{-6})$$

is the salt MA  
pre-made (where  
 $M = \text{K or Na})$

yes

calculate the number of  
moles of HA and the  
number of moles of  
MA

\* K2 if dibasic  
\* K2 if diprotic