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**Question 21** (3 marks)

A  $0.001 \text{ mol L}^{-1}$  solution of hydrochloric acid and a  $0.056 \text{ mol L}^{-1}$  solution of ethanoic acid both have a pH of 3.0. 3

Why do both solutions have the same pH?

though ethanoic acid is less acidic than HCl  
its concentration is much higher  $\rightarrow$  which result in the  
same pH. Its concentration at 0.056 is  
higher than 0.001

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