Question 21 (3 marks)

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

Why do both solutions have the same pH?

The ethanoic acid can not completly ionise but 0.056 mol L^{-1} is more concentrated than 0.001 mol L^{-1}. In the hydrochloric acid the molecular completely ionise. It has the same amount of $[H^+]$ of 0.056 mol L^{-1} ethanoic acid. This two acid have the same pH because they have the same concentration of $[H^+]$.