

Solutions

Each answer shows the steps, then the **result**.

2.1

- an acid is a proton (H^+) donor; a base is a proton acceptor

2.2

- a strong acid is fully dissociated into ions in water; a weak acid is only partly dissociated

3.1 B

- A base is a proton acceptor

3.2 B

- A strong acid is fully dissociated, giving more ions and a lower pH

3.3

(a)

- $\text{H}^+(\text{aq}) + \text{OH}^-(\text{aq}) \rightarrow \text{H}_2\text{O}(\text{l})$

(b)

- a strong acid is fully dissociated, so has more ions; more ions carry more charge, so it conducts better

3.4

- measure the pH of each with a pH meter — HCl gives a lower pH; add the same reactive metal to each — HCl fizzes faster; both show HCl has more H^+ ions / is more dissociated, so it is stronger