

Solutions

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

2.1

- Yes

2.2

- Cl^- is the anion of a strong acid, so it does not react with H^+

2.3

- OH^-

3.1 A

- the conjugate base of a weak acid

3.2

(a)

- It increases

(b)

- H^+ reacts with F^- to form HF, removing F^- ; the equilibrium shifts right to replace it, dissolving more CaF_2

3.3

- Cl^- is a strong-acid anion that does not react with H^+ , so pH has no effect; OH^- reacts with H^+ , so lowering pH dissolves more $\text{Mg}(\text{OH})_2$