

Solutions

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

2.1

- A proton (H^+) acceptor

2.2

- $\text{HNO}_3 \rightarrow \text{H}^+ + \text{NO}_3^-$

2.3

- It only ionizes partially, so an equilibrium exists between the molecule and its ions

3.1 A

- ionizes completely

3.2

(a)

- HCl

(b)

- HCl — it is strong and ionizes completely, giving a higher $[\text{H}^+]$ than the partially-ionized weak acetic acid

3.3

- $\text{NH}_3 + \text{H}_2\text{O} \rightleftharpoons \text{NH}_4^+ + \text{OH}^-$