

Solutions

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

2.1

- cathode: sodium (metal); anode: chlorine

2.2

- $F = Le$

3.1 B

- Cations are reduced at the cathode

3.2 B

- $Q = It = 1.5 \times 200 = 300 \text{ C}$

3.3

(a)

- $Q = It = 0.50 \times 3600 = 1800 \text{ C}$

(b)

- $\text{mol e}^- = 1800/96500 = 0.01865$; $\text{Ag}^+ + \text{e}^- \rightarrow \text{Ag}$ so $\text{mol Ag} = 0.01865$; $m = 0.01865 \times 108 = 2.0 \text{ g}$

3.4

- sodium is too reactive (very negative electrode potential), so the water/ H^+ is reduced instead, releasing hydrogen