

Solutions

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

2.1

- $\Phi = BA \cos 0^\circ = 0.50 \times 0.20 = 0.10 \text{ Wb}$

2.2

- a changing magnetic flux through the coil

2.3

- the induced current opposes the change in flux that produces it

3.1 A

3.2 C

3.3

(a)

- $|\varepsilon| = \left| \frac{\Delta\Phi}{\Delta t} \right| = \frac{0.40 - 0.10}{0.20} = 1.5 \text{ V}$

(b)

- Faraday's law