

4 Electric circuits – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

4.1 $I = \frac{Q}{t}$ (so $Q = It$).

4.2 $Q = It = 3.0 \times 20 = 60 \text{ C}$.

4.3 $R = V/I = 6.0/0.30 = 20 \Omega$.

4.4 $P = IV = 2.0 \times 12 = 24 \text{ W}$.

4.5 The current is the same at every point.

4.6 Each lamp gets the full supply voltage, and if one lamp fails the others stay on (they have their own branch).

4.7 Rearrange $P = IV$: $I = P/V = 1150/230 = 5.0 \text{ A}$.