

**32** Electrons move in a vacuum from one metal plate to another metal plate. As a result of this, there is an electric current of  $48 \mu\text{A}$  between the two plates.

How many electrons are emitted by the first plate in a time of 5.0 minutes?

**A**  $1.4 \times 10^4$

**B**  $1.5 \times 10^{15}$

**C**  $1.8 \times 10^{16}$

**D**  $9.0 \times 10^{16}$