

- 36** A radioactive source produces a beam of  $\alpha$ -particles in a vacuum. The average current caused by the  $\alpha$ -particles in the beam is  $1.5 \times 10^{-9}$  A.

The beam is incident on a metal target.

What is the average number of  $\alpha$ -particles hitting the metal target in a time of 3.0 s?

**A**  $4.7 \times 10^9$

**B**  $9.4 \times 10^9$

**C**  $1.4 \times 10^{10}$

**D**  $2.8 \times 10^{10}$