31 A length of wire RS has a circular cross-section.

At end R of the wire, the cross-sectional area is A.

At end S of the wire, the cross-sectional area is $\frac{A}{2}$.

Charge Q takes time t to pass through end R of the wire. There is a constant electric current in the wire.

How much charge will pass through end S in a time interval of $\frac{t}{4}$?

A $\frac{Q}{8}$ **B** $\frac{Q}{4}$ **C** $\frac{Q}{2}$ **D** Q