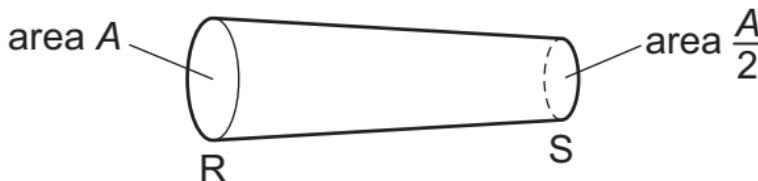


31 A length of wire RS has a circular cross-section.



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