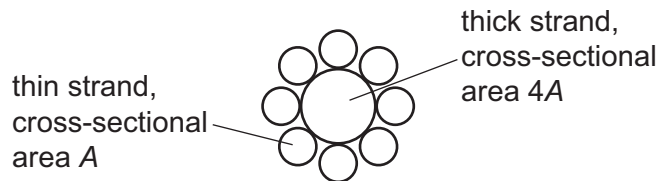


- 32** An electrical cable is made up of one thick strand of copper wire that is surrounded by eight thin strands of copper wire. All nine strands of wire are connected in parallel with each other.

A cross-section of the cable is shown.



Each thin strand of wire has cross-sectional area  $A$  and length  $L$ .

The thick strand of wire has cross-sectional area  $4A$  and length  $L$ .

The cable has total resistance  $R$ .

Which expression gives the resistivity of copper?

**A**  $\frac{4A}{33RL}$

**B**  $\frac{12A}{RL}$

**C**  $\frac{4AR}{L}$

**D**  $\frac{12AR}{L}$