

- 23** Two wires X and Y are of the same length. The resistivity of wire X is half the resistivity of wire Y. The diameter of wire X is one quarter the diameter of wire Y. X and Y are connected in parallel to a battery with negligible internal resistance.

What fraction of the total current passes through wire X?

A $\frac{1}{9}$

B $\frac{1}{8}$

C $\frac{1}{3}$

D $\frac{1}{2}$