

- 19** Two wires, X and Y, are made from the same metal. The diameter of wire Y is twice that of wire X. Wire X, wire Y and a battery are connected in series.

What is the ratio $\frac{\text{average drift speed of free electron in wire X}}{\text{average drift speed of free electron in wire Y}}$?

A $\frac{1}{4}$

B $\frac{1}{2}$

C $\frac{2}{1}$

D $\frac{4}{1}$