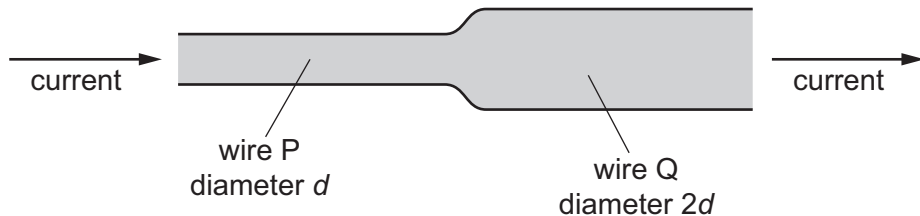


33 Two copper wires are joined together and carry a current, as shown.



Wire P has diameter d and wire Q has diameter $2d$.

What is the ratio $\frac{\text{average drift speed of the free electrons in wire P}}{\text{average drift speed of the free electrons in wire Q}}$?

A $\frac{1}{4}$

B $\frac{1}{2}$

C 2

D 4