

- 32** A cylindrical wire has cross-sectional area A and number density of free electrons n . The wire has current I and the free electrons have average drift speed v .

A second cylindrical wire has cross-sectional area $0.5A$ and number density of free electrons $2n$. In this wire, the free electrons have average drift speed $2v$.

What is the current in the second wire?

- A** $0.5I$ **B** I **C** $2I$ **D** $4I$