

- 20** A wire has a cross sectional area of  $3.0 \times 10^{-6} \text{ m}^2$  and volume of  $4.0 \times 10^{-7} \text{ m}^3$ , and contains  $3.4 \times 10^{22}$  electrons.

What is the drift speed of the electrons when the current is 2.0 A?

**A**  $7.8 \times 10^{-24} \text{ m s}^{-1}$       **B**  $2.0 \times 10^{-17} \text{ m s}^{-1}$

**C**  $4.9 \times 10^{-5} \text{ m s}^{-1}$       **D**  $130 \text{ m s}^{-1}$