

12-17 A copper wire 2.5 millimeters in diameter is carrying a current of 10 amperes. Assume one free electron per copper atom and find the magnitude of the drift velocity. [Copper has a density of 8.92 grams/(centimeter)<sup>3</sup>, an atomic weight of 63.5 grams/mole, and Avogadro's number is  $6.02 \times 10^{23}$ /mole.]