

24. The time required is found from Eq. 2-11 (or, suitably interpreted, Eq. 2-7). First, we convert the velocity change to SI units:

$$\Delta v = (100 \text{ km/h}) \left( \frac{1000 \text{ m/km}}{3600 \text{ s/h}} \right) = 27.8 \text{ m/s} .$$

Thus,  $\Delta t = \Delta v/a = 27.8/50 = 0.556 \text{ s}$ .