

Problem 7-19

$$v_0 = 85.0 \frac{\text{km}}{\text{h}} \times \frac{1 \text{ h}}{3600 \text{ s}} \times \frac{1000 \text{ m}}{1 \text{ km}} = 23.61 \text{ m/s}$$

$$v = 0$$

$$a = -245 \text{ m/s}^2$$

↑ slowing down

$$x - x_0 = ?$$

$$v^2 = v_0^2 + 2a(x - x_0)$$

$$\therefore 0^2 = (23.61)^2 + 2(-245)(x - x_0)$$

Solving for  $(x - x_0) \rightarrow x - x_0 = 1.14 \text{ m}$