

Chapter 6 Problem 34 †

Given

$$\Delta x = 100 \text{ m}$$

$$t = 10.6 \text{ s}$$

$$W = 22.4 \text{ kJ}$$

Solution

Find the average power output.

Average power is the change in work divided by the change in time. Therefore, the average power is

$$\bar{P} = \frac{W}{\Delta t} = \frac{(22,400 \text{ J})}{10.6 \text{ s}} = 2110 \text{ W} = 2.11 \text{ kW}$$

†Problem from Essential University Physics, Wolfson