

Question

Given:

$$s = 95.6 \text{ m}$$

$$v = 23.1 \frac{\text{m}}{\text{s}}$$

Need to find: h .

Solving:

$$s = v \cdot t \Rightarrow t = \frac{s}{v}$$

$$h = \frac{gt^2}{2} = \frac{gs^2}{2v^2}$$

According to the given data we will have:

$$h = \frac{gs^2}{2v^2} = \frac{9.8 \cdot (95.6)^2}{2 \cdot (23.1)^2} = 83.9 \text{ m.}$$

Answer: 83.9 meters.