

Answer on Question #50008 – Physics – Mechanics | Kinematics | Dynamics

Given

$$\alpha = 20^\circ$$

$$v_0 = 20 \frac{m}{s}$$

Solution

we obtain:

$$h = \frac{v_0^2 \cdot \sin^2 20^\circ}{2g} = \frac{400 \cdot \frac{1 - \cos 40^\circ}{2}}{2 \cdot 9.8} m \approx 100 \cdot \frac{1 - 0.766}{9.8} m = 2.388 m$$

So $h = 2.388 \text{ m} \approx 2.4 \text{ m}$

Answer: $h=2.4 \text{ m}$

<http://www.AssignmentExpert.com/>