

Answer on Question #84886 - physics - Relativity

1. An object is thrown horizontally at velocity 40m/s making an angle 60 degree with the horizontal plane. find the maximum height and horizontal range

**Answer :**

Calculate the maximum height by the relation as follows:

$$H = \frac{V^2 \sin^2 \theta}{2g}$$

Here velocity is V ,gravitational acceleration is g and angle is  $\theta$ .

$$H = \frac{(40)^2 \sin^2(60)}{2(9.81)}$$

$$H = 61.16 \text{ m}$$

Calculate the horizontal range by the relation as follows:

$$R = \frac{V^2 \sin 2\theta}{g}$$

Here velocity is V ,gravitational acceleration is g and angle is  $\theta$ .

$$R = \frac{(40)^2 \sin 2(60)}{(9.81)}$$

$$R=141.24 \text{ m}$$

**Answer:**

$$R = 141.24 \text{ m}$$

$$H = 61.16 \text{ m}$$

Answer provided by <https://www.AssignmentExpert.com>