

## Answer on Question #67800- Physics / Mechanics / Relativity

(Question1) the speed of 90 hm /hr is equal to \_\_\_\_\_ m/s.

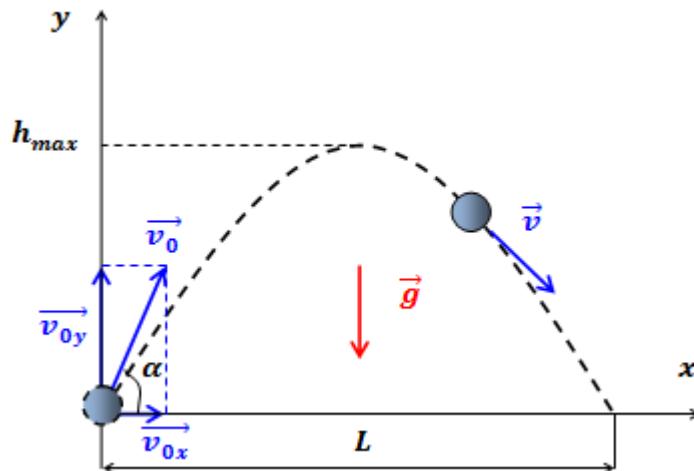
**Solution:**

$$90 \frac{\text{hm}}{\text{hr}} = 90 \frac{1000 \text{ m}}{3600 \text{ s}} = 25 \frac{\text{m}}{\text{s}}.$$

**Answer:**  $90 \frac{\text{hm}}{\text{hr}} = 25 \frac{\text{m}}{\text{s}}.$

(Question2 ) the trajectory of a projectile is

**Solution:**



The trajectory of a projectile is given by equation

$$y(x) = x \tan \alpha - \frac{gx^2}{2v_0^2 \cos^2 \alpha}.$$

This equation defines the parabola.

Thus, trajectory of a projectile without air resistance is parabola.

**Answer:** parabola.

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