

PARABOLIC

Calculations on the parabolic movement

1. Setting the movement
2. Calculation of points

1. Setting the movement

It needs 2 data . Usually they will be the initial speed and the shot angle, but they also can be any other couple of data, as the reach and the maximum height, etc...

The screenshot shows a software window titled "Parabolic shot" with a blue title bar and standard window controls. The window is divided into several sections:

- Info:** Contains a diagram of a parabolic trajectory on a green background. The trajectory starts at a point labeled Y_0 on the left. An initial velocity vector V_0 is shown at an angle α to the horizontal. The peak of the trajectory is labeled "Height", and the horizontal distance from the start to the end of the trajectory is labeled "Reach".
- Point of the trajectory:** A section with input fields for x , y , V_y , $|V|$, and t . To the right of these fields are labels $x2:$, $V_y2:$, and $t2:$. An "Accept" button is located at the bottom right of this section.
- Movement parameters:** A table with three columns: "Parameter", "value", and "data?".

Parameter	value	data?
V_0 (m/s)	200	<input checked="" type="checkbox"/>
angle (°)	30	<input checked="" type="checkbox"/>
V_x (m/s)		<input type="checkbox"/>
V_{y0} (m/s)		<input type="checkbox"/>
Reach (m)		<input type="checkbox"/>
Height (m)		<input type="checkbox"/>
T (s)		<input type="checkbox"/>

Below the table is a small diagram of a velocity vector V_0 with a value of 300 in a text box, and an "Accept" button.
- Exit:** A button at the bottom center of the window.

Once introduced and accepted the two data the rest of parameters of the global movement is calculated: reach, maximum height, time of flight...

The trajectory also appears and the chart of values is activated for points of the trajectory.

2. Calculation of points

Now you can introduce a data to obtain the rest of variables for the related point (or points)

