

Question #77592, Physics / Classical Mechanics

jeff throws tennis ball at initial velocity of 2 meters per second. jeffs hand is 2 meters above the ground at point of release. how long between leaving his hand and hitting the floor

Solution

Assuming the ball is thrown vertically upwards.

The ball's vertical position is described by the following equation.

$$y = y_0 + v_0t - \frac{gt^2}{2}$$

Plugging the known values:

$$0 = 2 + 2t - \frac{9.81t^2}{2}$$

Solving for t , obtaining $t = 0.87$ s.

Answer: $t = 0.87$ s.

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