

Assignment

1. A bullet is shot at initial of velocity 40 m/s , and elevation angle of 60° from a flat ground, air friction is neglected and gravitational acceleration $g = 10 \text{ m/s}^2$.
Determine:
 - a. The time needed by the bullet to reach the highest point H
 - b. The maximum height reached by the bullet
 - c. The greatest distance reached by the bullet.
2. An object is thrown at initial of velocity of 20 m/s from point A to the ground with elevation angle 30° . If gravitational acceleration $g = 10 \text{ m/s}^2$ and air friction is neglected, determine:
 - a. The initial velocity vector
 - b. The object velocity vector after $0,5 \text{ s}$
 - c. The object position vector after $0,5 \text{ s}$
3. A ball is thrown horizontally at initial velocity of 4 m/s from a place 20 m above a plain ground. Air friction is neglected, $g = 10 \text{ m/s}^2$. Determine the time required by the ball to fall to the ground, and where it lands measured from the base of where it was thrown to the ground.