PHYS 101: General Physics 1

KOÇ UNIVERSITY

Spring Semester 2015

College of Arts and Sciences

Quiz 10-1

May 2015

Section

Closed book. No calculators are to be used for this quiz.

Quiz duration: 10 minutes

Name:Student ID:Signature:A projectile of mass m moves to the right with a speed of V0. The projectile collidesto the end of a stationary rod of mass m elastically. The length of the rod is L. Themoment of inertia of the rod about the center of mass is $(mL^2/12)$

Calculate the angular speed of the rod ω and the center of the mass velocities of the rod and the projectile (V1 and V2) after the collision?



PHYS 101: General Physics 1

KOÇ UNIVERSITY

Spring Semester 2015

College of Arts and Sciences

Section

Quiz 10-2

May 2015

Closed book. No calculators are to be used for this quiz.

Quiz duration: 10 minutes

Name:

Student ID:

Signature:

A projectile of mass 2m moves to the right with a speed of V0. The projectile collides to the end of a stationary rod of mass m elastically. The length of the rod is L. The moment of inertia of the rod about the center of mass is $(mL^2/12)$

Calculate the angular speed of the rod ω and the center of the mass velocities of the rod and the projectile (V1 and V2) after the collision?



PHYS 101: General Physics 1

KOÇ UNIVERSITY

Spring Semester 2015

College of Arts and Sciences

Section

Quiz 10-3

May 2015

Closed book. No calculators are to be used for this quiz.

Quiz duration: 10 minutes

Name:

Student ID:

Signature:

A projectile of mass m moves to the right with a speed of V0. The projectile collides to the end of a stationary rod of mass 3m elastically. The length of the rod is L. The moment of inertia of the rod about the center of mass is $(mL^2/12)$

Calculate the angular speed of the rod ω and the center of the mass velocities of the rod and the projectile (V1 and V2) after the collision?

