

Homework 4 - Conserved quantities

Q4.1. A uniform rigid rod of mass $2m$ is in a static, homogeneous and isotropic environment, and is initially at rest. A particle of mass m hits one of its ends elastically and at right angles to the rod.

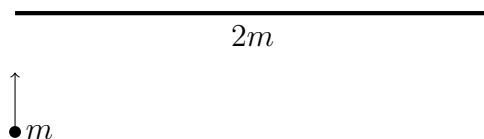


Figure Q4.1.1: Initial state of particle and rod.

Describe the subsequent motion.