Paper Homework No. 09 (Spring 2018)

PHYS 205A: University Physics

Due date: Wednesday, 2018 Apr 11, 12.00pm, in class

(Name) (Signature)

Instructions

1. Your submission should include only this page. Other forms of submissions will not be accepted. Please print this page, and write your solution on the back side.
2. Show your thought process in detail and organize it clearly.
3. Make sure your answer has the correct units and the right number of significant digits.

Question

A bullet with mass $m_1 = 3.00\,\mathrm{g}$ is fired into a wooden block of mass $m_2 = 1.00\,\mathrm{kg}$, that hangs like a pendulum. The bullet is embedded in the block (complete inelastic collision). The block (with the bullet embedded in it) goes $h = 30.0\,\mathrm{cm}$ high after collision. Calculate the speed of the bullet before it hit the block.