Paper Homework No. 10 (Spring 2018)

PHYS 205A: University Physics

Due date: Monday, 2018 Apr 23, 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 uniform solid cylinder of radius 10.0 cm and mass 1.00 kg is free to rotate about its symmetry axis. The cylinder acts like a pulley. A string wound around the cylinder is connected to a block of mass 0.50 kg, which falls under gravity. See Fig. 1. What is the angular acceleration of the cylinder?

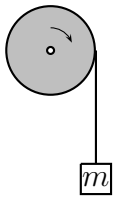

Figure 1: Mass hanging off a solid cylinder.