Accelerating Atwood Machines Lab Report

Physics

This lab report is an individual assignment. It consists of two main parts: a prediction, and experimental verification of your prediction. For the purposes of this lab report, please use a value of 1 x 10^{-4} kg m^2 for I (the moment of inertia) of your Atwood Machine.

1. Predict the resulting angular acceleration of an Atwood Machine if you hang a 120 g mass from the largest radius (5 cm) and a 150 g mass from the next largest radius (3.5 cm) as pictured below. The masses should cause torque in opposite directions.

2. Test your prediction using an Atwood Machine. Discuss your results in a detailed paragraph that includes explanations of your sources of error and includes corrected or example calculations.