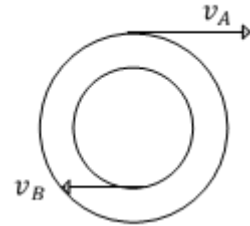


Name _____ Instructor name _____

You must show and explain all work neat and organized to receive credit. Please show each step for calculations. YOU MUST TURN IN THIS SHEET to have your assignment graded.

1. What is meant by "moment of inertia?" (4 pts)
2. Show how to obtain Equation (8) from Equations (5), (6), and (7) in the Laboratory Manual. (6 pts)

3. The figure shows two disks, A and B , cemented together, rotating with angular acceleration α . The radius of the small disk B is $\frac{3}{4}$ of the radius of the larger disk. Calculate the ratio of the tangential velocity of a point on the rim of disk A to the tangential velocity of a point on the rim of disk B . **Please show detailed calculations.** (5 pts)



4. For the two disks in Question 3, what is the ratio of the linear acceleration of a point on the rim of disk A to the linear acceleration of a point on the rim of disk B ? **Please show detailed calculations.** (5 pts)