

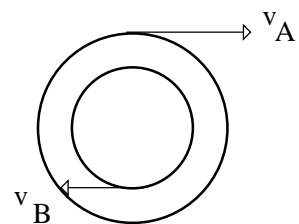
## Physics 1101 Experiment 6 Homework

Name \_\_\_\_\_

1. What is meant by "moment of inertia?"

2. Show how to obtain Equation (9) from the three equations above it. Please note that the middle equation should be  $Tr = I_{\text{disk}} \alpha$ . The  $r$  was omitted from the expression.

3. The figure shows two disks, A and B, cemented together, that are rotating with angular acceleration  $\alpha$ . The radius of the small disk B is  $2/3$  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.



4. If the two disks in problem 4 have an angular velocity of  $\omega$ , calculate the ratio of the kinetic energy of disk A to the kinetic energy of disk B. Assume that each disk has mass  $M$ .