## **Rotational Mechanics I**

Add the appropriate arrows Which is moving faster, the edge of the and labels to the diagram to wheel or the edge of the axle? Why? represent/show: a) the Consider the diagram. Describe in as much detail as you can why the rate of rotation of the angular velocity and b) the angular acceleration. disk (its angular velocity) increases. ν How does the tangential acceleration of the edge of the disk relate to the linear acceleration of the attached string that is R providing the force? This arrangement is known as a "wheel and axle". There are two possible set ups: а a) Rotate the axle to turn the wheel b) Rotate the wheel to turn the axle. LAB QUESTION: For each of the above, state a common usage and explain how the relative sizes of the wheel and axle affect the Describe how you could set up an experiment to measure the rotational purpose chosen. inertia of the wheel-axle arrangement. a) State the equations that are associated with this set up and, more importantly, what they mean! b)

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