

Name: _____

Physics 201 Quiz 8

Mar 4, 2013

Word Problems

Show all your work and circle your final answer. (Ten points each.)

1. A solid cylindrical disk has a radius of 0.15 meters. It is mounted to an axle that is perpendicular to the circular end of the disk at its center. When a 45-newton force is applied tangentially to the disk, perpendicular to the radius, the disk acquires an angular acceleration of 120 rad/s^2 . What is the mass of the disk?

2. In Figure 1, the uniform beam weighs 500 newtons. If the tie rope can support 1800 newtons, what is the maximum value the load W can have?

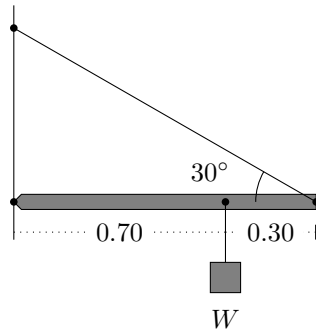


Figure 1: Hanging Weight