PHYS 1110 Worksheet: Angular Momentum

1. What are the units of angular momentum?
   A. What are the units of rp (r = a distance, p = momentum)?

   B. What are the units of $I\omega$ (I = moment of inertia, ω = angular velocity)?

2. A 2.00-kg point mass travels in a circular path of radius 3.00 meters at a constant speed of 4.00 meters per second.
   A. What is its angular velocity?

   B. What is the magnitude of its momentum?

   C. What is its angular momentum?

2. A 2.00-kg cylinder has a radius of 0.10 m.
   A. What is its moment of inertia for rotation about its principal axis?

   B. What is its moment of inertia for rotation about a parallel axis 3.00 meters from its center of mass?

   C. What is its angular momentum when it rotates in this 3.00-m radius circle at a tangential speed of 4.00 meters per second?

   D. What is its kinetic energy when it rotates in this 3.00-m radius circle at a tangential speed of 4.00 meters per second?