

Readings and Homework Set 8

Readings: Chapter 8, Chapter 9 (Sections 1 - 3).

Problems, due Nov. 7 in class:

1. Textbook, Exercise 7.21.
2. Textbook, Exercise 8.28.
3. Textbook, Exercise 8.34.
4. Textbook, Exercise 8.56.
5. Consider four rods of uniform density ρ connected to form a square of length L . Determine the moment of inertia perpendicular to this square with respect to one of the corner points which is held fixed.
6. Consider a disk of radius d and mass M in the x/y plane which is located at a distance $R \gg d$ from the origin. Assume that the density of the disk increases linearly as the distance of the point from the center of the disk. Determine the moment of inertia perpendicular to the x/y plane relative to the origin. Express your answer in terms of the mass M .