

MA 234-01 §15.6, 15.8, centroids, Pappus	Quiz #6	score	Name: _____ 16 May 1997
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- At each point of a sphere of radius  $a$  the mass density is directly proportional to the distance from the point to the center of the sphere. Find the moment of inertia of the sphere about a diameter. *(10 points)*

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- Find the center of mass of the semi-circle of radius  $a$  centered at the origin contained in the first and fourth quadrants if the mass density at any point is proportional to the square of the distance from the point to the  $y$ -axis. *(10 points)*