34. Find the moments of inertia about an axis through its center of a uniform hollow sphere of mass $M$ and outer and inner radii $a$ and $b$.

35. Calculate the principal moments of inertia $I'_i$ of a uniform, solid cone of vertical height $h$, and the base radius $a$, about its vertex. For what value of the ratio $h/a$ is every axis through the vertex a principal axis? For that case, find the position of the center of mass, and the principal moments of inertia $I_i$ about the center of mass.

36. A uniform solid cube of edge length $2a$ is suspended from a horizontal axis along one edge. Find the length of the equivalent simple pendulum. Given that the cube is released from rest with its center of mass level with the axis, find its angular velocity when it reaches the lowest point.