DYNAMICS ASSIGNMENT

Planar Kinetics of a Rigid Body (Mass Moment of Inertia)

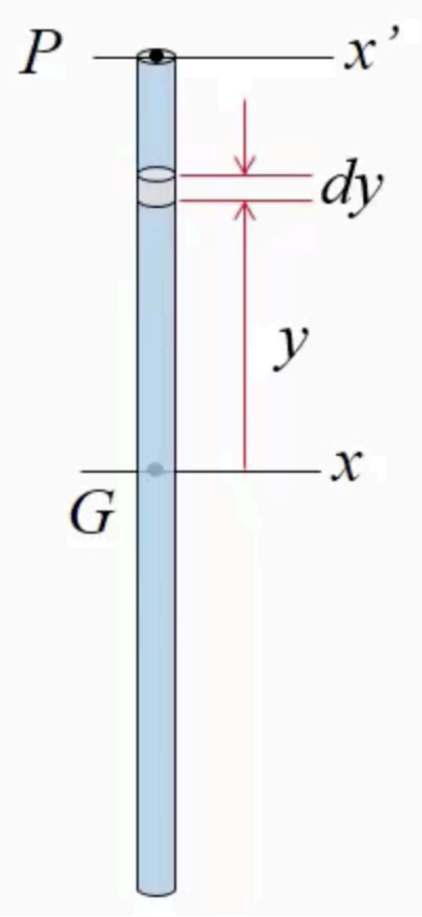
by:

Dr. Mohd Hasnun Arif HASSAN

Faculty of Manufacturing Engineering

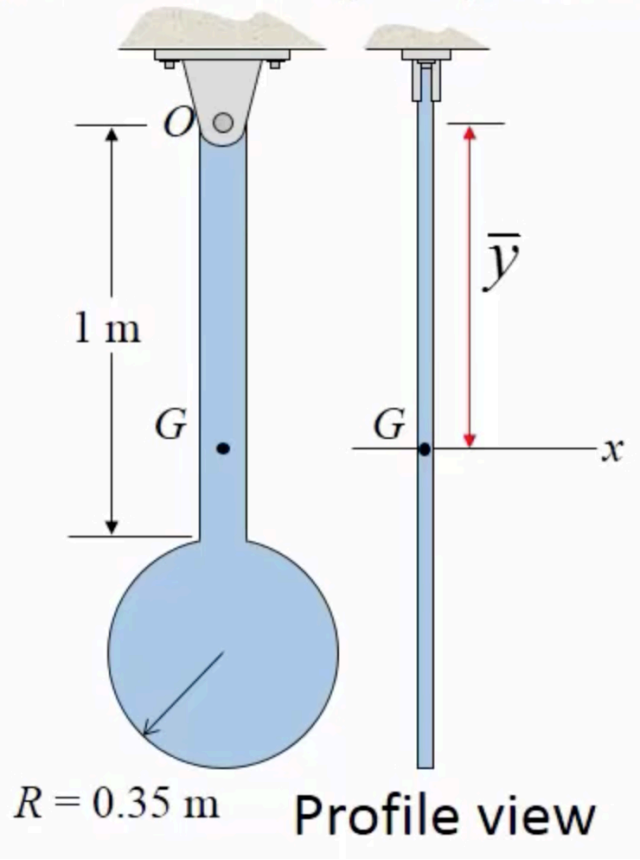
mhasnun@ump.edu.my

Question 1 – Mass moment of inertia



For a uniform slender rod of mass m and a total length of l, determine its mass moment of inertia about an axis x, which passes through its centre of gravity G, and the mass moment of inertia about the axis x'.

Question 2 – Mass moment of inertia



For a composite pendulum made of a uniform slender rod (12 kg) and a uniform disk (8 kg), determine its mass moment of inertia about x axis that passes through its centre of gravity, as well as the radius of gyration about the x axis.