

## Answer on Question #28432

### Physics - Mechanics | Kinematics | Dynamics

#### Question:

The moment of inertia of a uniform rod of length  $2l$  and mass  $m$  about an axis  $xx$  passing through its centre and inclined at an angle is

#### Solution:

$$I = \frac{1}{12} m (2l \sin \alpha)^2 = \frac{1}{3} ml^2 \sin^2 \alpha,$$

where  $\alpha$  is the angle between the rod and rotation axis.

#### Answer:

$$\frac{1}{3} ml^2 \sin^2 \alpha$$