A thin cylindrical candle is reshaped into a thick cylinder what would happen to its moment of inertia about the axis of the cylinder? Explain.

Solution:

The moment of inertia about the axis of the cylinder

$$I = \frac{mr^2}{2}.$$

Since a thin cylindrical candle is reshaped into a thick cylinder the radius r will increase. So the moment of inertia will increase too.

Answers: The moment of inertia increases.

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