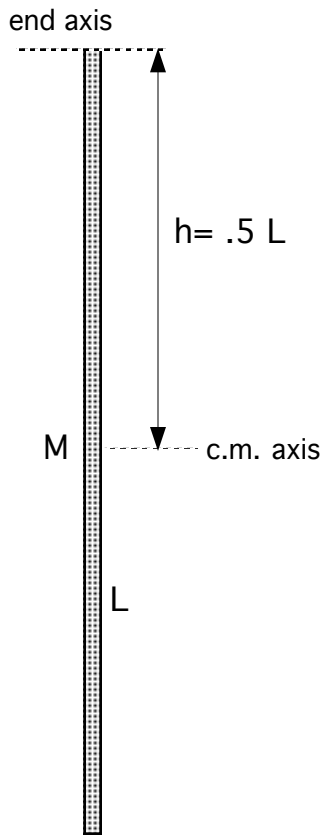


ATTACHMENT #1

A brass rod, pivoted on an axis at one end, beats time for a clock.
It oscillates with SHM of period T.



The period of a physical pendulum is expressed by:

$$(1) \quad T = 2\pi \sqrt{\frac{I_p}{Mgh}}$$

In (1), I_p is the moment of inertia of the rod about the end axis. In the study of SHM this is found to

$$\text{be: } (2) \quad I_p = \frac{1}{3} ML^2$$

In this case, the distance from the c.m. axis to the end axis is: (3) $h = .5 L$

Using (2) and (3) to simplify (1) we get:

$$(4) \quad T = 2\pi \sqrt{\frac{2L}{3g}} \quad \text{for this pendulum.}$$