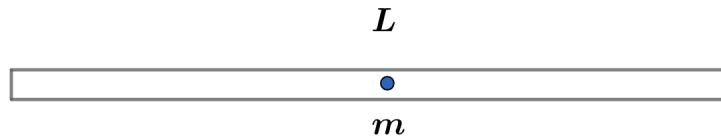# 2007 F=ma Exam: Problem 31

Kevin S. Huang

L

m

Recall the moment of inertia of a rod about its center is

$$I = \frac{1}{12}mL^2$$

We are given $I = md^2$ which means

$$\frac{1}{12}L^2 = d^2$$

$$\frac{L}{d} = \sqrt{12} = 2\sqrt{3}$$

so the answer is $\boxed{D}$.