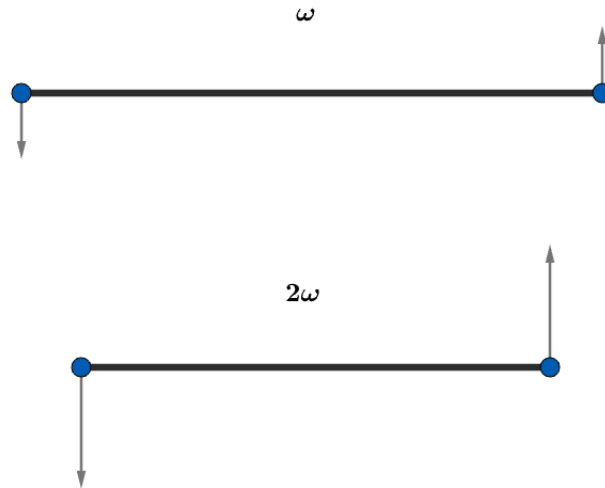


2008 F=ma Exam: Problem 14

Kevin S. Huang



Since there are no external torques on the system, we have conservation of angular momentum L . Initially, the device has rotational kinetic energy

$$E = \frac{1}{2}I\omega^2 = \frac{1}{2}L\omega$$

If the angular velocity is doubled, then the energy is also doubled,

$$E' = 2E$$

so the answer is B.