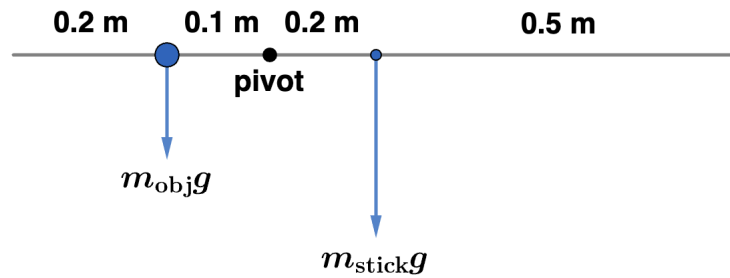# 2014 F=ma Exam: Problem 7

Kevin S. Huang

We balance torques around the pivot point. Using the fact that the weight of the stick can be taken to act at its center, we have

$$m_{\text{obj}}g(0.1\,\text{m}) = m_{\text{stick}}g(0.2\,\text{m})$$

Solving for m_{stick},

$$m_{\text{stick}} = \frac{m_{\text{obj}}}{2} = \frac{50\,\text{g}}{2} = 25\,\text{g}$$

so the answer is $\boxed{\text{C}}$.