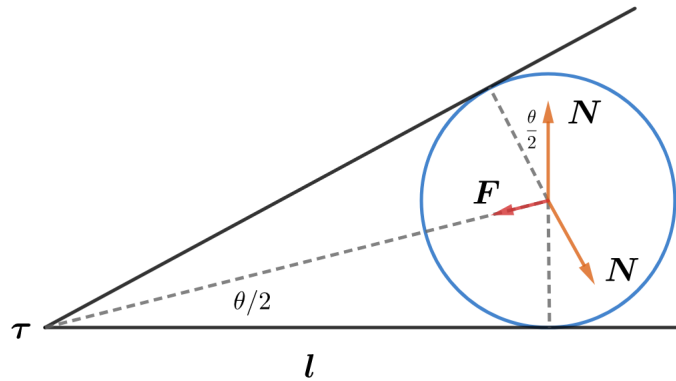


# 2019A F=ma Exam: Problem 17

Kevin S. Huang



Since the hinge exerts a constant torque on the boards, the normal force from the boards is

$$N = \frac{\tau}{l}$$

We must apply a force  $F$  toward the hinge to keep the disc at the rest,

$$F = 2N \sin \frac{\theta}{2} = \frac{2\tau}{l} \sin \frac{\theta}{2}$$

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