The disk of mass m_o rests on the surface for which the coefficient of static friction is μ_A. Determine the friction force at A.

$M = 50$ Nm

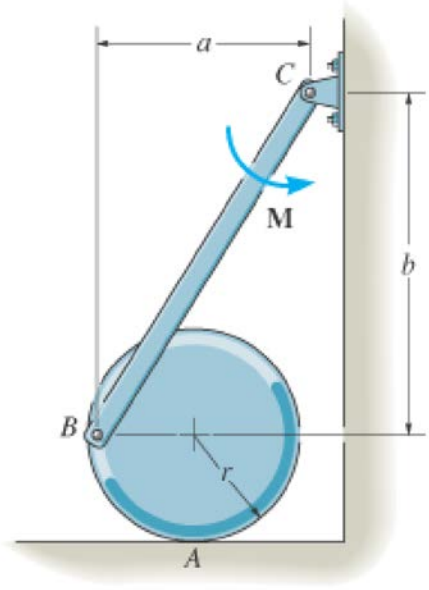
$m_o = 45$ kg

$\mu_A = 0.15$

$a = 300$ mm

$b = 400$ mm

$r = 125$ mm



The disk of mass m_o rests on the surface for which the coefficient of static friction is μ_A. Determine the magnitude of the moment M needed to cause the disc to spin.

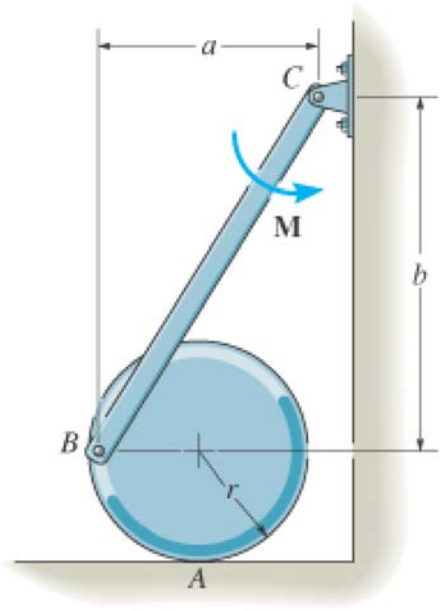
$m_o = 45$ kg

$\mu_A = 0.15$

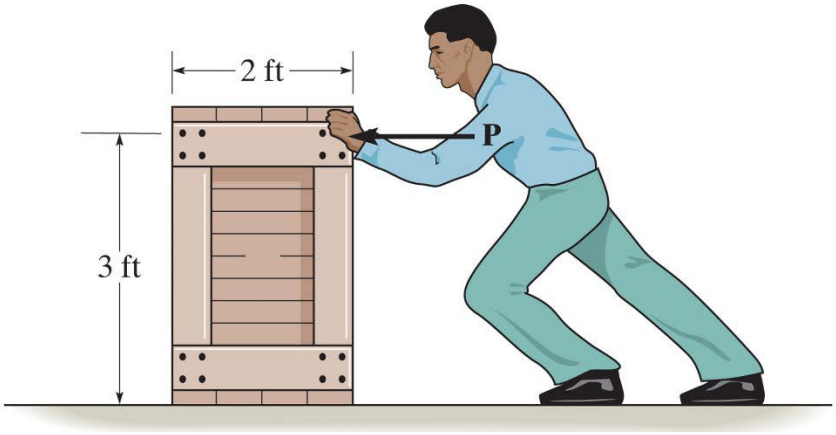
$a = 300$ mm

$b = 400$ mm

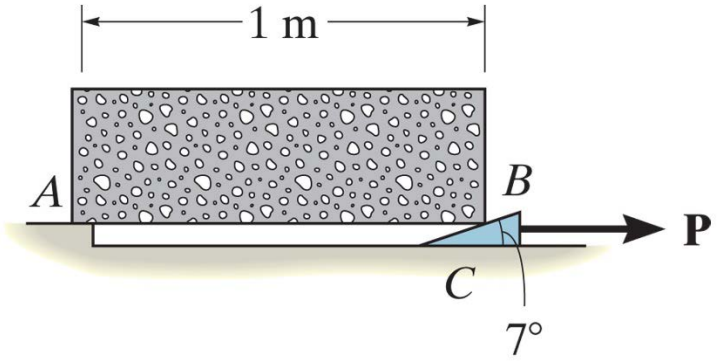
$r = 125$ mm



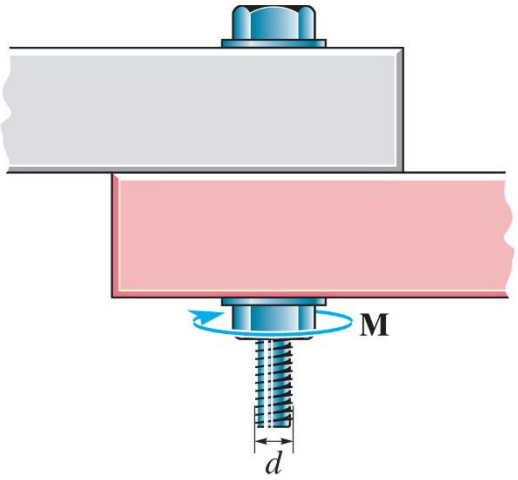
Determine the smallest force *P* that must be applied in order to cause the 150-lb uniform crate to move. The coefficent of static friction between the crate and the floor is $\mu_s = 0.5$.



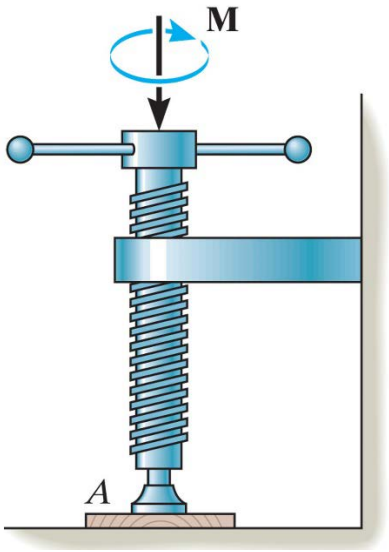
The uniform stone shown below has a mass of 500 kg and is held in the horizontal position using a wedge at B. If the coefficient of static friction is $\mu_s = 0.3$ at the surfaces of contact, determine the minimum force P needed to remove the wedge. Assume that the stone does not slip at A.



The square-threaded bolt is used to join two plates together. If the bolt has a mean diameter of d = 20 mm and a lead of l = 3 mm, determine the smallest torque **M** required to loosen the bolt if the tension in the bolt is T = 40 kN. The coefficient of static friction between the threads and the bolt is $\mu_s = 0.15$.



Determine the clamping force on the board A if the screw is tightened with a torque of M = 8 N·m. The square threaded screw has a mean radius of r =10 mm and a lead of l = 3 mm, and the coefficient of static friction is $\mu_s = 0.35$.



If the required clamping force at the board A is to be 2 kN, find the torque M that must be applied to the screw to tighten it down. The square-threaded screw has a mean radius of r =10 mm and a lead of l = 3 mm, and the coefficient of static friction is $\mu_s = 0.35$.