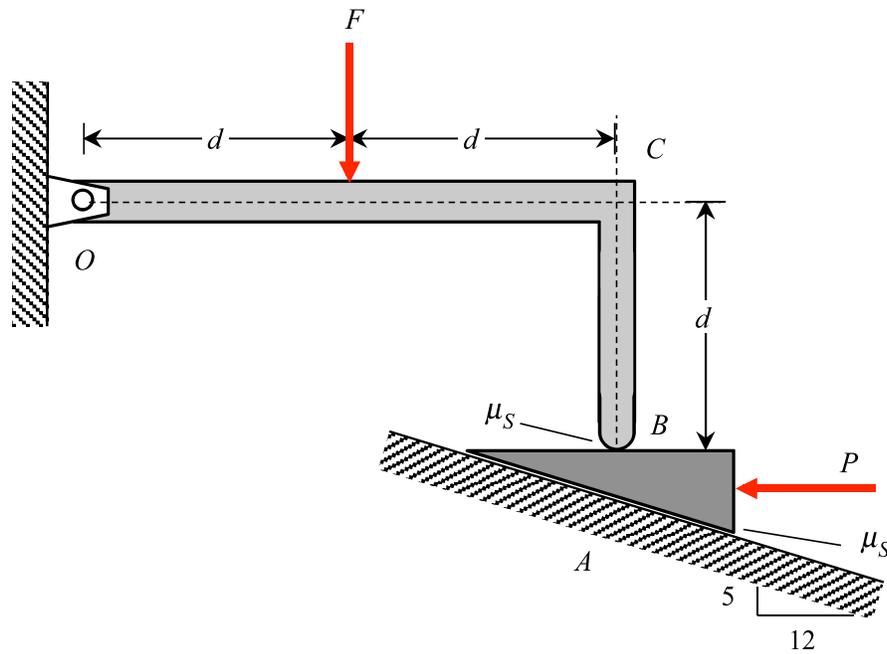


Homework H20.A

Given: The L-shaped arm OA is pinned to ground at end O. End A is supported by a wedge, with the coefficient of static friction between the wedge and the arm, and between the wedge and ground being μ_s . A vertical force F acts on the arm as shown. A horizontal force P is applied to the wedge to hold the wedge in place. Consider the weights of the wedge and arm to be negligible compared to the other forces acting on the system.

Find: Determine the largest force P for which the system remains in equilibrium. Express your answers in terms of the applied force F .

For this problem, use the following parameter: $\mu_s = 0.3$.



Homework H20.B

Given: An inhomogeneous block having a weight of W and its center of mass at G is to be raised with a wedge at support A . The coefficient of static friction between the block and the wedge is μ_s .

Find: Determine the minimum value of the wedge force P in order to raise the block at A .

