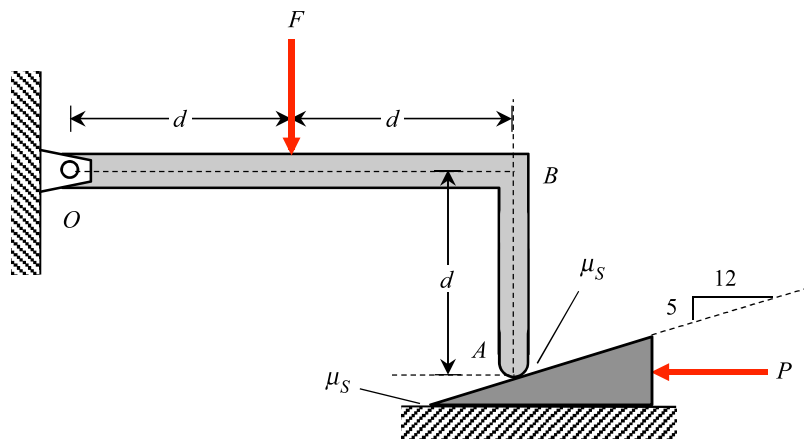## Homework H20.A

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: $\mu_s = 0.4$.

Given: Wedge B is used to support block A having a weight of *W*.. The weight of the
wedge is negligible compared to the weight of the block.

Find: Determine the *largest* value of the load *P* for which the system can be in
equilibrium. Leave your answer in terms of *W*.

Use the following: $\mu_S = 0.4$ and $\theta = 30°$.

smooth

A

μ_S

W

g

B

P

θ

μ_S