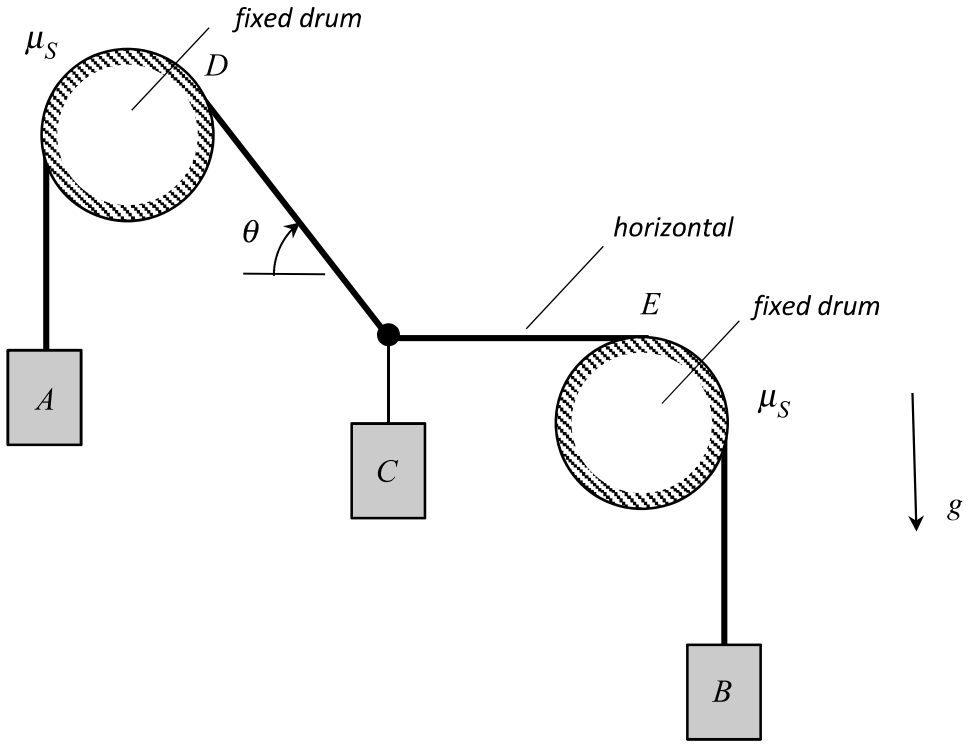
Homework H19.A

Given: Blocks A and B, each having a weight of *W*, are supported by the cable/fixed-drum system shown below. Block C is supported at the junction of the two cables supporting A and B. The coefficients of static friction for the two fixed drums are as indicated in the figure.

Find: Determine the *maximum* weight of block C for which the system can remain in equilibrium.

Express your answer in terms of *W*. Use the following: $\mu_s = 0.3$ and $\theta = 60°$.



Homework H19.B

Given: A belt is wrapped around a drum, with a couple M being applied to the drum. The belt is being tensioned by the force P acting at end D of arm AD, as shown below. Let μ_K. be the coefficient of kinetic friction between the belt and drum.

Find: For this problem:

a) If the couple M is acting in the *clockwise* direction with the drum rotating *clockwise* at a constant rate, determine M.

b) If the couple M is acting in the *counterclockwise* direction with the drum rotating *counterclockwise* at a constant rate, determine M.

Write your answers in terms of P, R and μ_K.