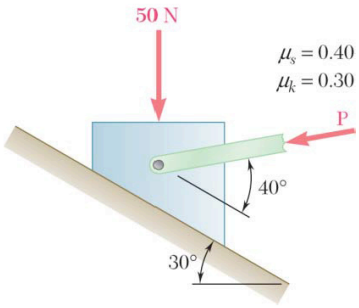
ES 208 Mechanics

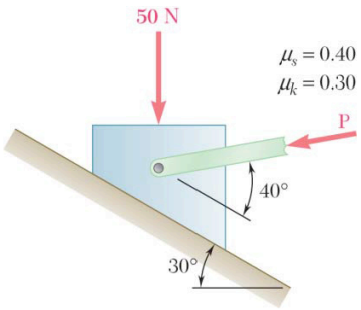
Tutorial 7

All problems are from Beer and Johnston's book



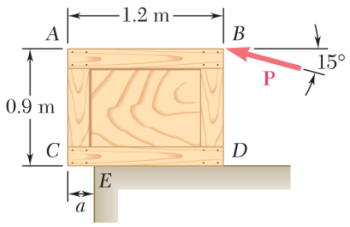

## PROBLEM 8.4

Determine whether the block shown is in equilibrium and find the magnitude and direction of the friction force when $P = 80$ N.



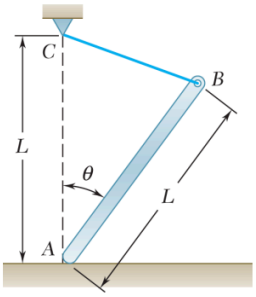

## PROBLEM 8.5

Determine the smallest value of $P$ required to ($a$) start the block up the incline, ($b$) keep it moving up.




## PROBLEM 8.16

A worker slowly moves a 50-kg crate to the left along a loading dock by applying a force **P** at corner $B$ as shown. Knowing that the crate starts to tip about the edge $E$ of the loading dock when $a = 200$ mm, determine ($a$) the coefficient of kinetic friction between the crate and the loading dock, ($b$) the corresponding magnitude $P$ of the force.




## PROBLEM 8.24

End $A$ of a slender, uniform rod of length $L$ and weight $W$ bears on a surface as shown, while end $B$ is supported by a cord $BC$. Knowing that the coefficients of friction are $\mu_s = 0.40$ and $\mu_k = 0.30$, determine ($a$) the largest value of $\theta$ for which motion is impending, ($b$) the corresponding value of the tension in the cord.