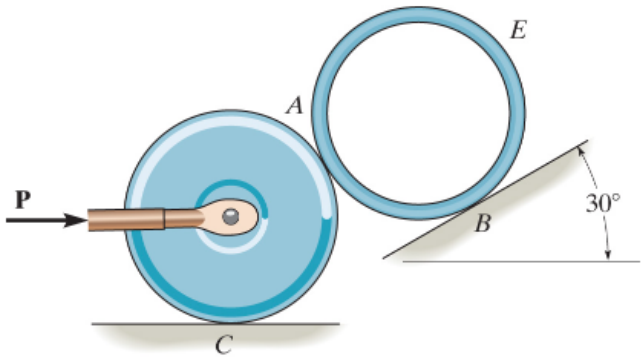
*8–36. Determine the minimum force P needed to push the tube E up the incline. The coefficients of static friction at the contacting surfaces are $\mu_A = 0.2$, $\mu_B = 0.3$, and $\mu_C = 0.4$. The 100-kg roller and 40-kg tube each have a radius of 150 mm.

Problem 8–36



NOTE: Assume impending slipping at *A* and verify the restrictions when you have solved the problem.