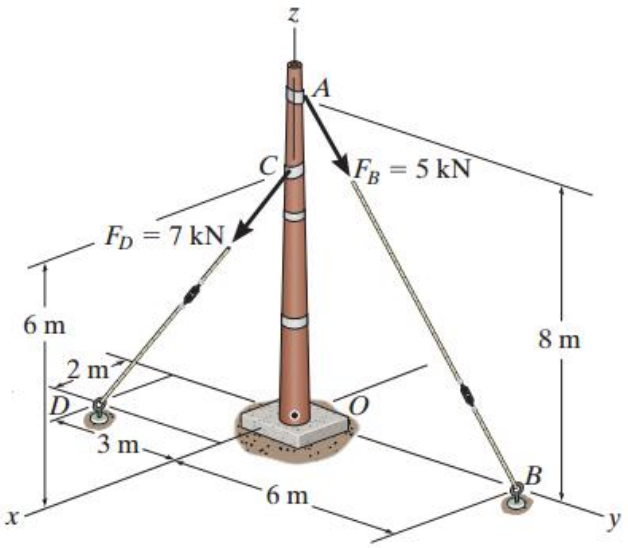
TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY

MAK104 STATICS

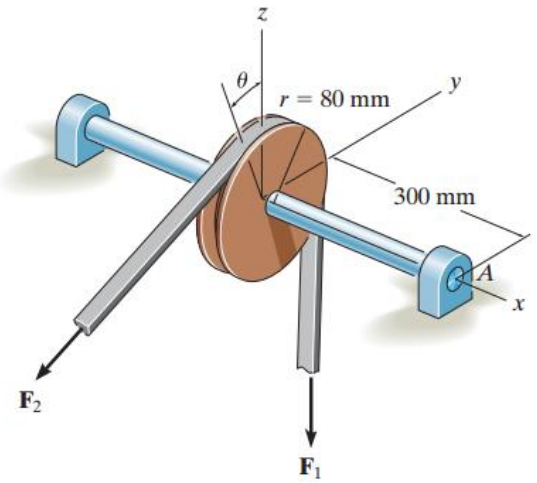
2017-2018 SUMMER

WORKING PROBLEMS – 4

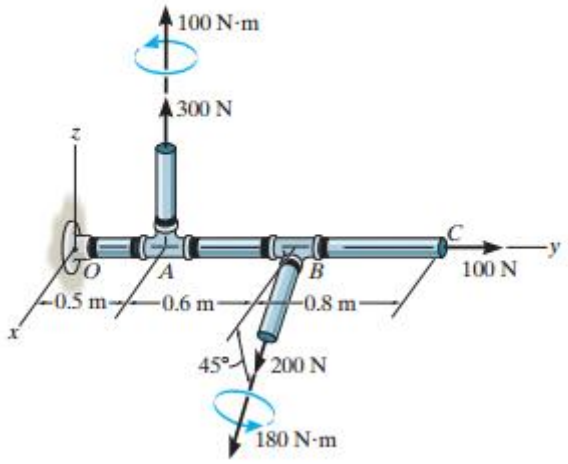
1. Replace the two forces acting on the post by a resultant force and couple moment at point O. Express the results in Cartesian vector form.



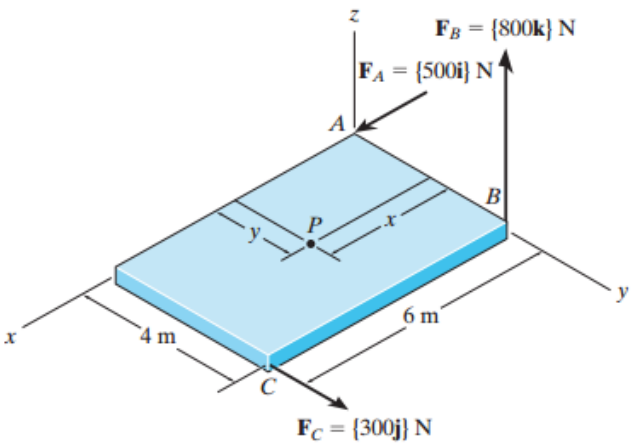
2. The belt passing over the pulley is subjectedto two forces F_1 and F_2 , each having a magnitude of 40 N F_1 acts in the $-k$ direction. Replace these forces by an equivalent force and couple moment at point A. Express the result in Cartesian vector form. Take $\theta = 45^0$.



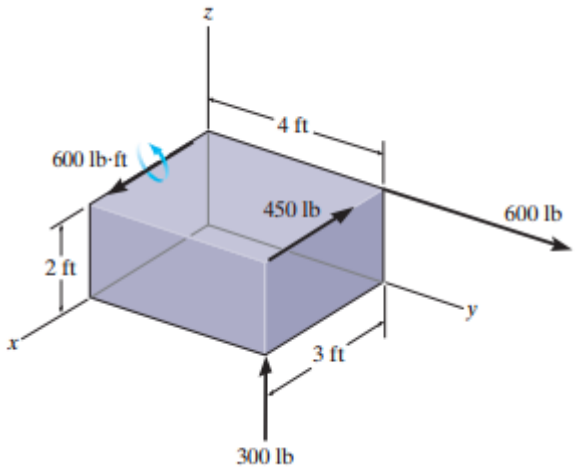
3. Replace the two wrenches and the force, acting on the pipe assembly, by an equivalent resultant force and couple moment at point O.



4. Replace the three forces acting on the plate by a wrench. Specify the magnitude of the force and couple moment for the wrench and the point $P(x, y)$ where its line of action intersects the plate.



5.



Replace the force and couple moment system acting on the rectangular block by a wrench. Specify the magnitude of the force and couple moment of the wrench and where its line of action intersects the $x-y$ plane.