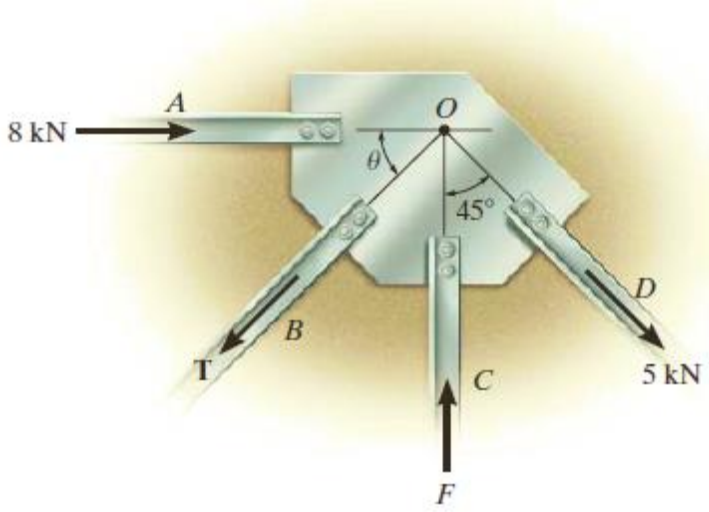
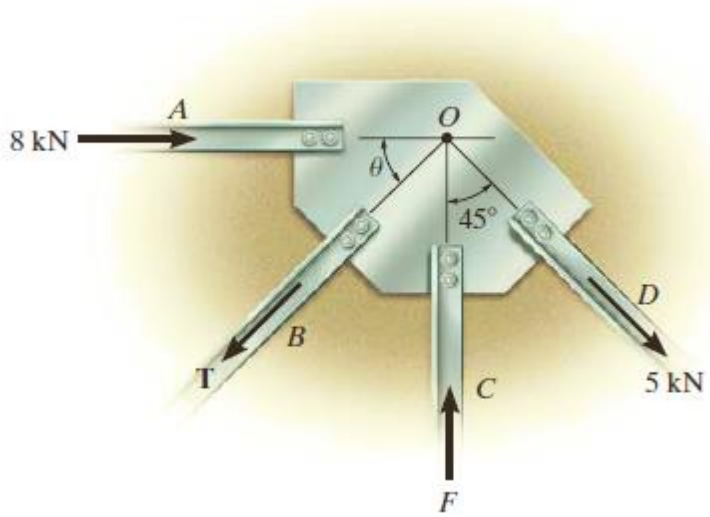
In the name of God

Statics Homework set 3

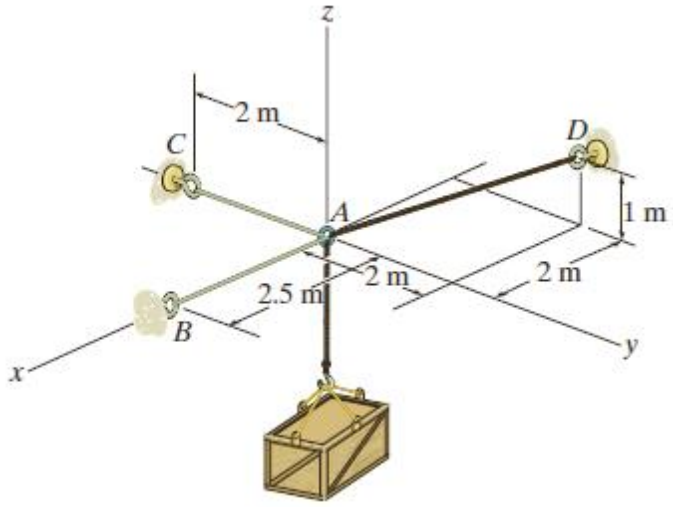
#1 The members of a truss are connected to the gusset plate. If the forces are concurrent at point *O*, determine the magnitudes of **F** and **T** for equilibrium. Take θ = 30°.



#2 The gusset plate is subjected to the forces of four members. Determine the force in member *B* and its proper orientation for equilibrium. The forces are concurrent at point *O*.Take F = 12 kN.



#3 Determine the tension in the cables in order to support the 100-kg crate in the equilibrium position shown.



#4 The ends of the three cables are attached to a ring at *A* and to the edge of the uniform plate. Determine the largest mass the plate can have if each cable can support a maximum tension of 15 kN.