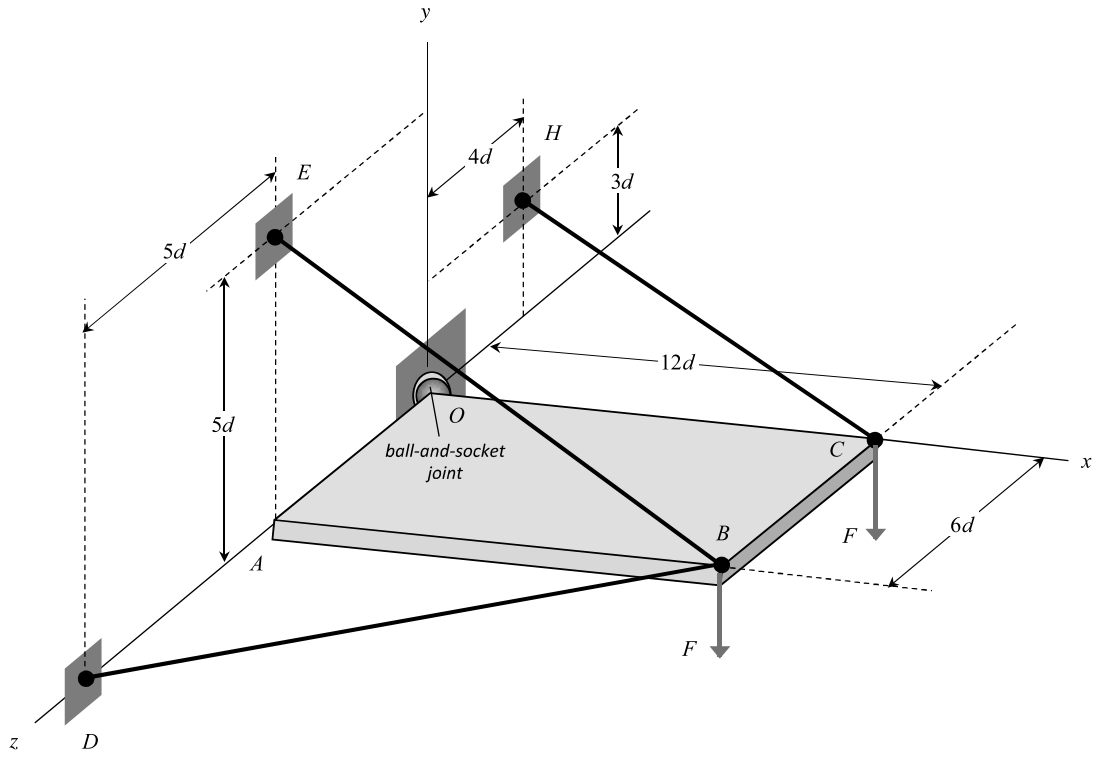
***Homework H11.A***

***Given***: A rectangular plate is supported by a ball-and-socket joint at corner O and by three cables: DB, EB and HC. A pair of identical vertical forces act at corners B and C. The weight of the plate is negligible compared to the pair of applied forces.

***Find***: Determine the tension forces acting on the plate by the cables. Write your answers in terms of *F*.



***Homework H11.B***

***Given***: The door is loaded at D with a force $F$ and is supported by a cable CE and hinges at A and B. The cable carries a tension of $T_{CE}$. The hinge at B *carries* a load in the x-direction and the hinge at A *does NOT* carry a load in the x-direction. The weight of the plate is negligible compared to the applied load at D.

***Find***:

a) Determine the load $F$.
b) Determine the reactions at hinges A and B.

Use the following parameters in your analysis: $T_{CE} = 300$ N, $h = 0.50$ m and $d = 0.6$ m.