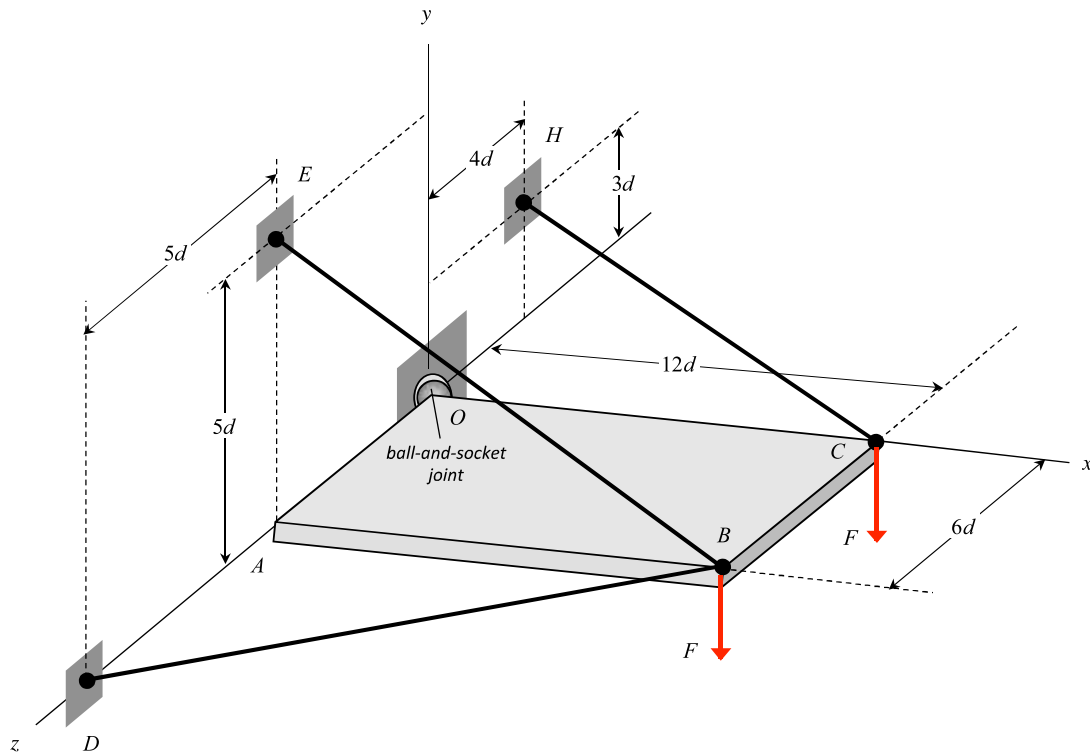


Homework H11.A

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:

- Determine the load F .
- Determine the reactions at hinges A and B.

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

