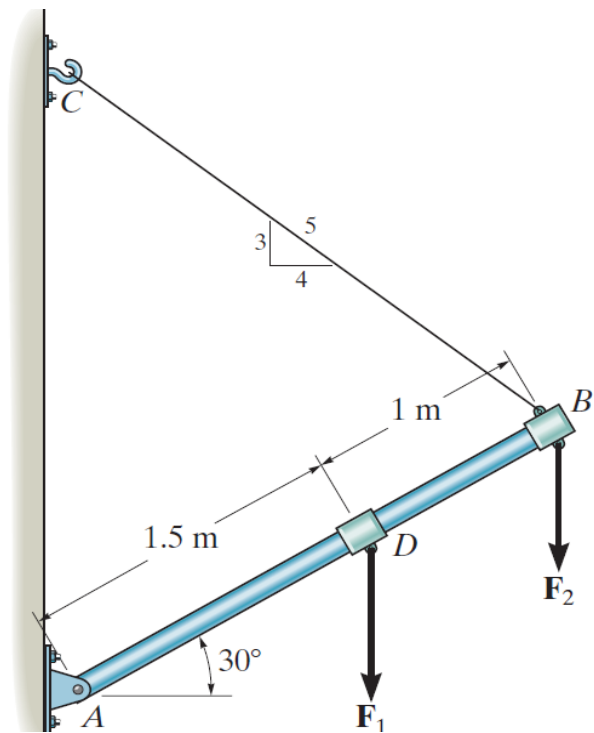


Submit your complete solution via MyCourses by Monday Nov 9, 23.59.

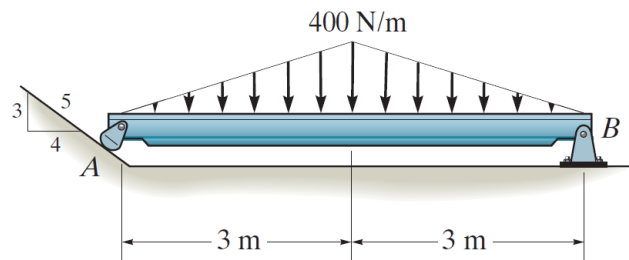
Exercise 1

The boom supports the two vertical loads. Neglect the size of the collars at D and B and the thickness of the boom, and compute the horizontal and vertical components of force at the pin A and the force in cable CB . Set $F_1 = 800\text{ N}$ and $F_2 = 350\text{ N}$.

Answer: $A_x = 625\text{ N}$; $A_y = 681\text{ N}$; $F_{CB} = 782\text{ N}$.

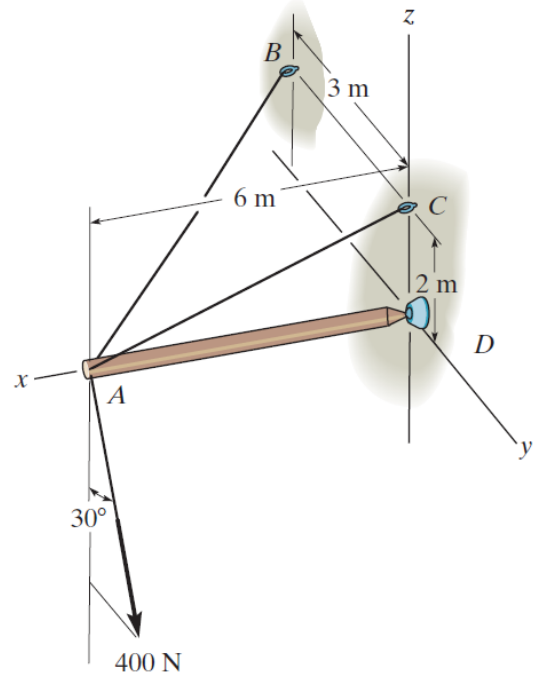
**Exercise 2**

Determine the reactions at the supports.



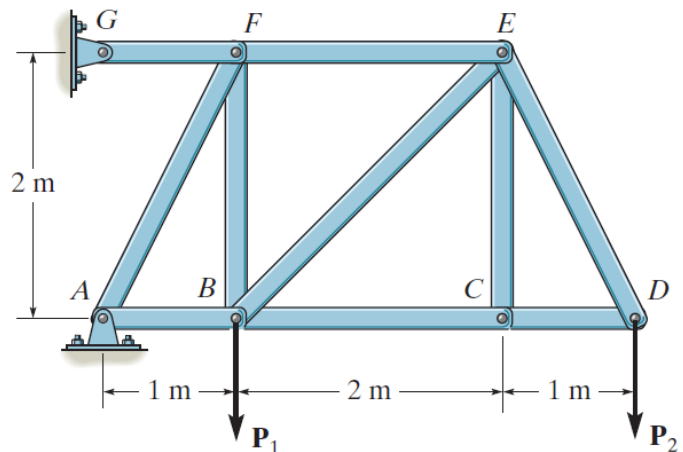
Exercise 3

Determine the tension in each cable and the components of reaction at D needed to support the load.

**Exercise 4**

Determine the force in each member of the truss and state if the members are in tension or compression. Set $P_1 = 8$ kN and $P_2 = 12$ kN.

Answer: $F_{DE} = 13.4$ kN (T); $F_{CB} = F_{DC} = 6.0$ kN (C); $F_{CE} = 0$; $F_{EB} = 17.0$ kN (C); $F_{EF} = 18.0$ kN (T); $F_{BA} = 18.0$ kN (C); $F_{BF} = 20.0$ kN (T); $F_{FA} = 22.4$ kN (C); $F_{FG} = 28.0$ kN (T).

**Exercise 5**

The Howe truss is subjected to the loading shown here. Determine the force in members GF , CD , and GC , and state if the members are in tension or compression.

