Online Homework System

Assignment Worksheet
6/16/22 - 4:04:53 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 6.4 Homework Exercises

Question 1: (10 points)

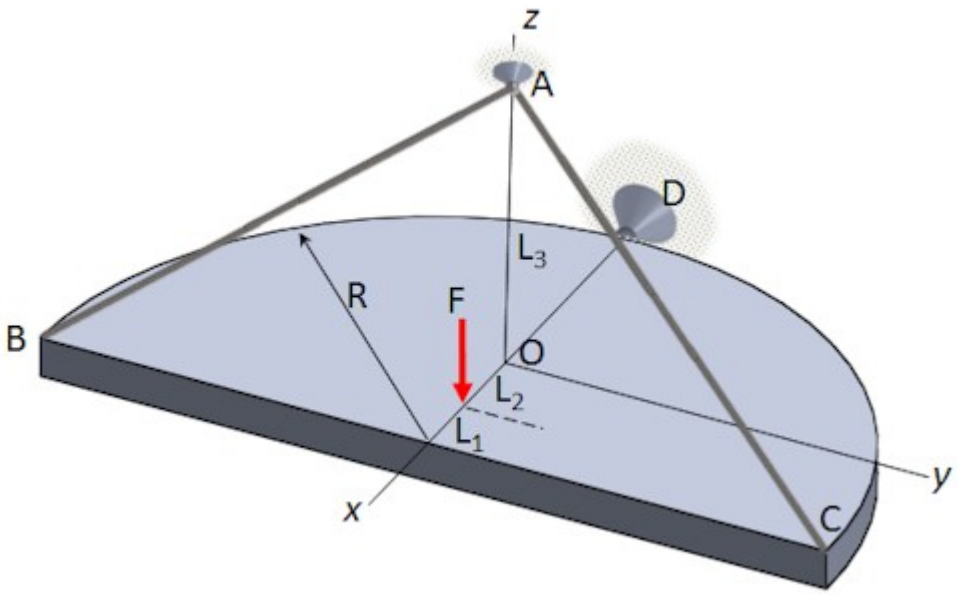


Plate **BCD** is supported by a ball-and-socket joint at point **D** and cables **AB** and **AC**. Find the tension in the cables and the reactions at the ball-and-socket joint, given:

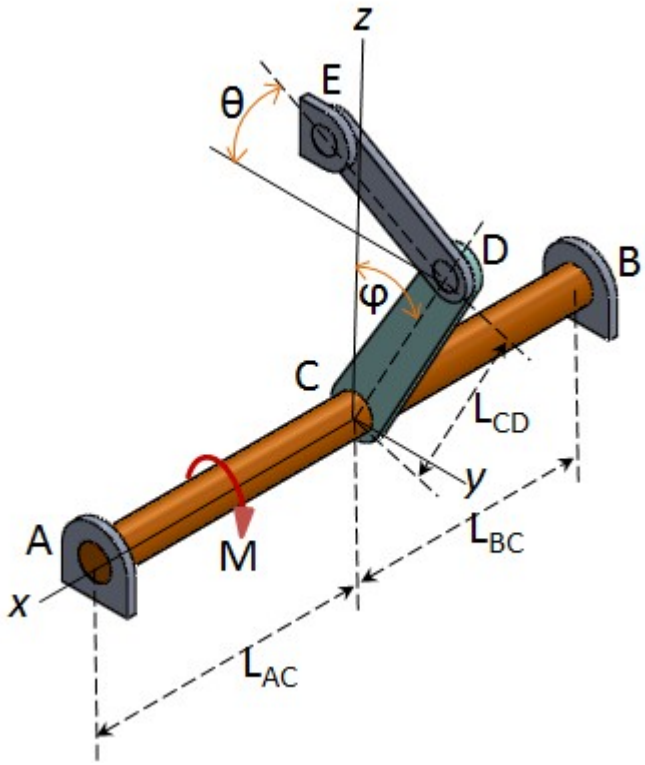
F = 150 *lbs*, **R** = 2.5 *ft*, $\mathbf{L_1}$ = 0.7 *ft*, $\mathbf{L_2}$ = 0.8 *ft*, $\mathbf{L_3}$ = 2 *ft*

(ans: $\boldsymbol{T_{BA}}$ *= 95.5 lbs,* $\boldsymbol{T_{CA}}$ *= 95.5 lbs,* $\boldsymbol{D_X}$ *= 81 lbs,* $\boldsymbol{D_Y}$ *= 0 lbs,* $\boldsymbol{D_Z}$ *= 42 lbs)*

Select problem completion status from drop-down list:

_____

Question 2: (10 points)



Shaft **AB** is supported by properly aligned journal bearings **A** and **B**, and link **DE**. Find the force reaction in the journal bearings and the force in link **DE**, given:

M = 400 *lb·ft*, $\mathbf{L_{AC}}$ = 0.5 ft, $\mathbf{L_{BC}}$ = 0.9 ft, $\mathbf{L_{CD}}$ = 0.8 ft, **θ** = 28 °, **Φ** = 22 °

(ans: $\boldsymbol{F_{DE}}$ = 503 lbs, $\boldsymbol{A_Y}$ = 285 lbs, $\boldsymbol{A_Z}$ = -152 lbs, $\boldsymbol{B_Y}$ = 159 lbs, $\boldsymbol{B_Z}$ = -84.3 lbs)

Select problem completion status from drop-down list:

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