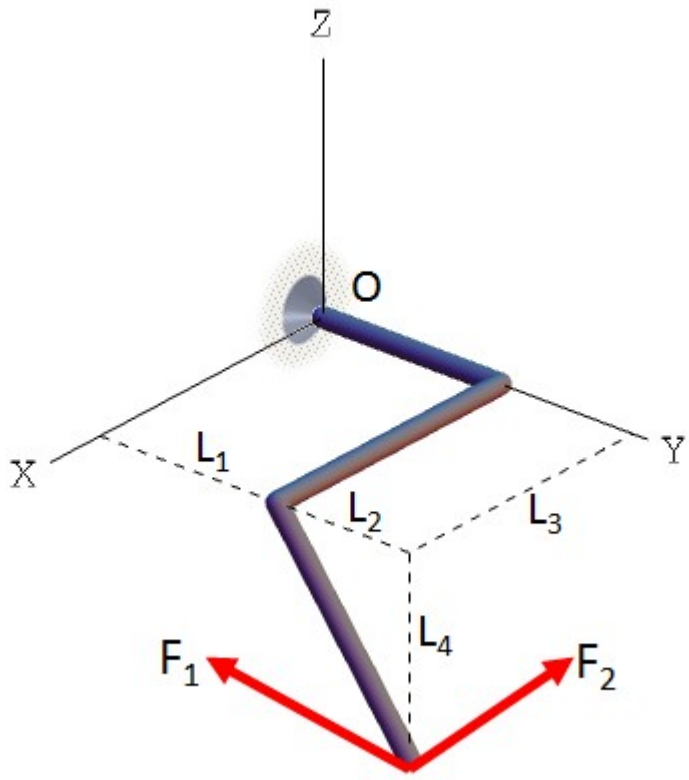
Online Homework System

Assignment Worksheet
6/16/22 - 4:01:03 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 4.2 Homework Exercises

Question 1: (10 points)

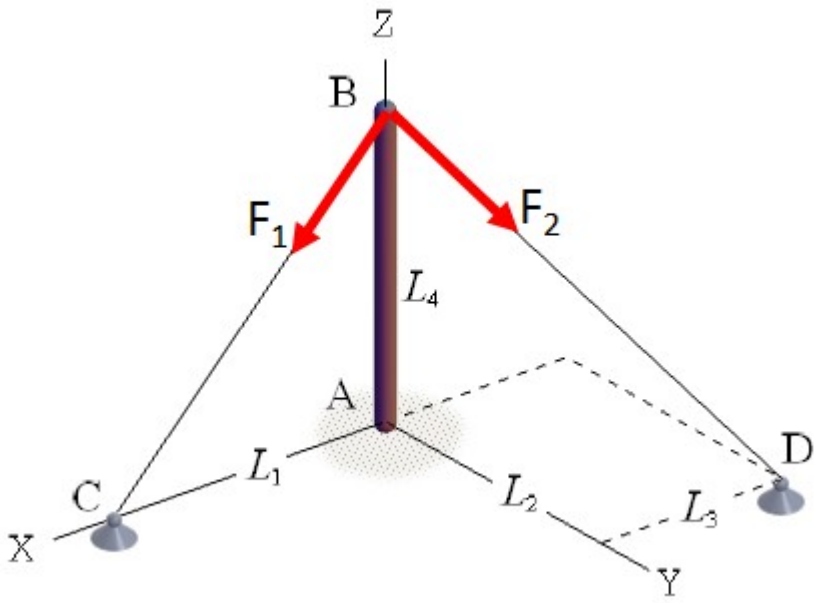


Find the resultant moment produced by forces $\mathbf{F_1}$ and $\mathbf{F_2}$ about point **O**, given:
$\bar{\mathbf{F}}_1$ = <-25, -50, 100> *N*, $\bar{\mathbf{F}}_2$ = <-35, 20, 40> *N*, $\mathbf{L_1}$ = 2 *m*, $\mathbf{L_2}$ = 2 *m*, $\mathbf{L_3}$ = 4 *m*, $\mathbf{L_4}$ = 3 *m*
(ans: $\bar{\mathbf{M}}_O$ = <470, -380, 120> N·m)

Select problem completion status from drop-down list:

_____

Question 2: (10 points)



Find the resultant moment produced by forces $\mathbf{F_1}$ and $\mathbf{F_2}$ about point **A**, given:
$\mathbf{F_1}$ = 750 *lbs*, $\mathbf{F_2}$ = 500 *lbs*, $\mathbf{L_1}$ = 2 *ft*, $\mathbf{L_2}$ = 3 *ft*, $\mathbf{L_3}$ = 3 *ft*, $\mathbf{L_4}$ = 4 *ft*
(ans: $\bar{\mathbf{M}}_A$ = <-1,030, 313, 0> lb·ft)

Select problem completion status from drop-down list:

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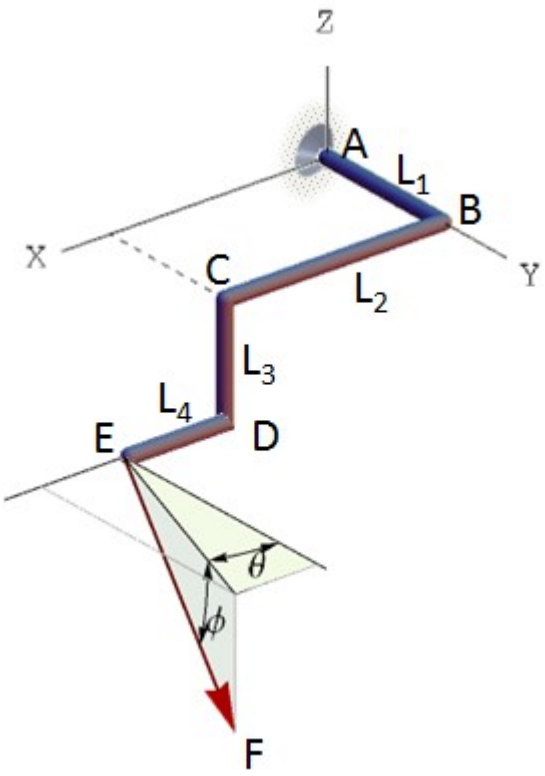
Question 3: (10 points)



The pipe structure shown is subjected to a force **F** at point **E**. Find the moment of the force about point **B**, given:

F = 140 *lbs*, $\mathbf{L_1}$ = 1.2 *ft*, $\mathbf{L_2}$ = 1.2 *ft*, $\mathbf{L_3}$ = 2 *ft*, $\mathbf{L_4}$ = 1.8 *ft*, **θ** = 25 °, **Φ** = 20 °

(ans: $\bar{\boldsymbol{M}}_{\boldsymbol{B}}$ = <238, 32.5, 358> lb·ft)

Select problem completion status from drop-down list:

_____