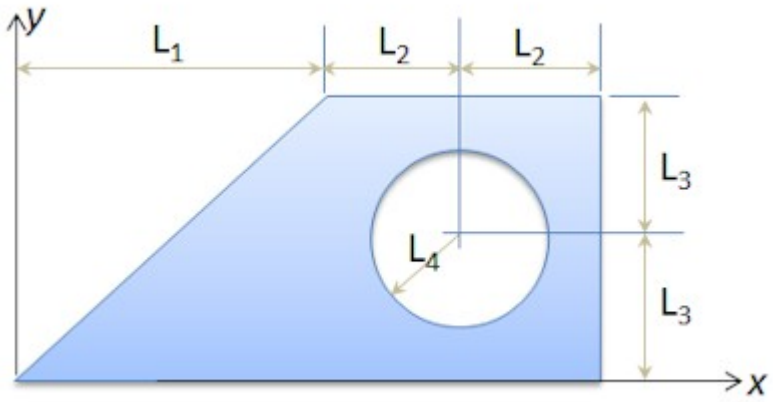
Online Homework System

Assignment Worksheet
6/16/22 - 4:07:42 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 9.2 Homework Exercises

Question 1: (10 points)



Find the moment of inertia for the cross-sectional shape about the *x* and *y* axes, given:

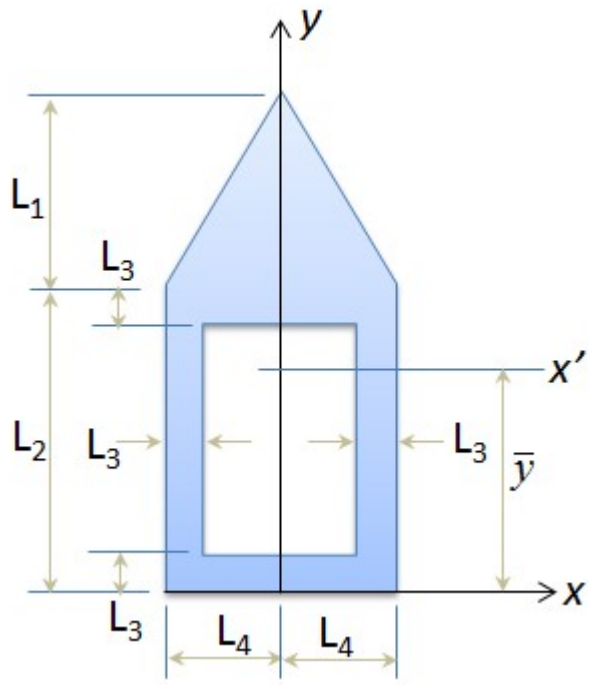
$\mathbf{L_1}$ = 4 *in*, $\mathbf{L_2}$ = 5 *in*, $\mathbf{L_3}$ = 6 *in*, $\mathbf{L_4}$ = 2 *in*

(ans: $\boldsymbol{I_X}$ *= 5.87 ×10*^{3} *in*^{4}*,* $\boldsymbol{I_Y}$ *= 9.88 ×10*^{3} *in*^{4}*)*

Select problem completion status from drop-down list:

_____

Question 2: (10 points)



Find the moment of inertia of the cross-sectional shape about the *x′* axis, given:

L_1 = 12 *in*, L_2 = 15 *in*, L_3 = 2 *in*, L_4 = 10 *in*

(ans: $I_{x'}$ = 12.9x10^3 in^4, Hint: you'll need to first find $\bar{y}$)

Select problem completion status from drop-down list:

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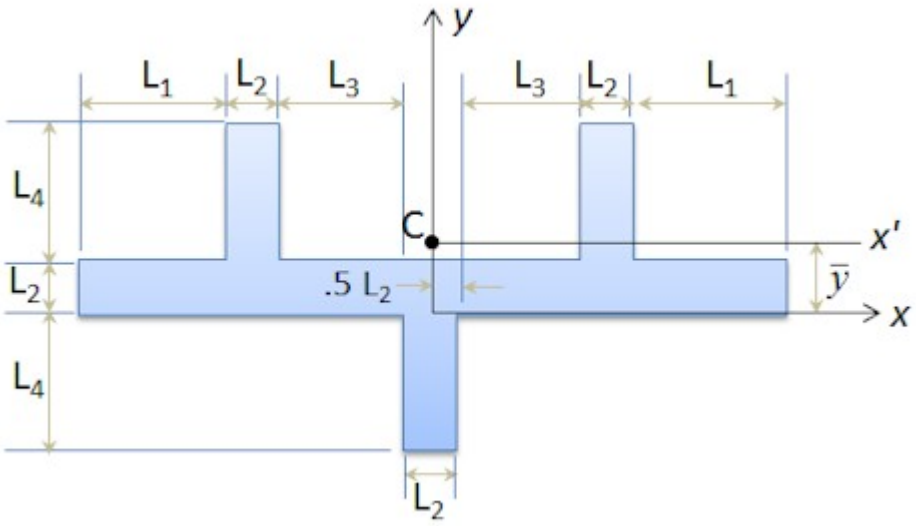
Question 3: (10 points)



Find moment of inertia of the cross-sectional area about the *X*-axis, *Y*-axis, and *X'*-axis, given:

L_1 = 40 *mm*, **L_2** = 25 *mm*, **L_3** = 75 *mm*, **L_4** = 85 *mm*

(ans: $I_x = 28.6 \times 10^6\ mm^4$, $I_y = 102 \times 10^6\ mm^4$, $I_{x'} = 22.5 \times 10^6\ mm^4$)

Select problem completion status from drop-down list:

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