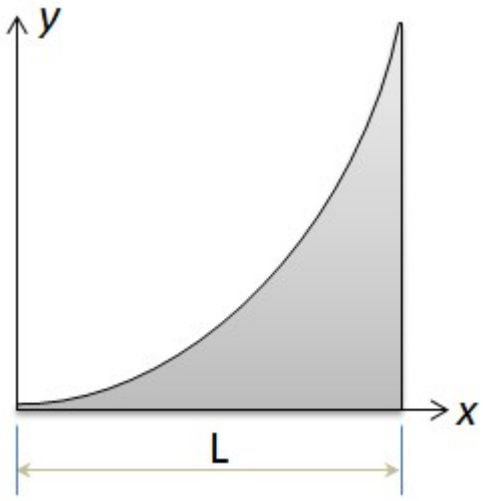
Online Homework System

Assignment Worksheet
6/16/22 - 4:08:12 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 9.3 Homework Exercises

Question 1: (10 points)



Find the centroid ($\bar{\mathbf{x}}$, $\bar{\mathbf{y}}$) of the shaded area, given the function: $\mathbf{y = 2 \cdot x^4}$ and **L** = 3 *ft*.
(ans: $\bar{\boldsymbol{x}}$ = 2.5 ft, $\bar{\boldsymbol{y}}$ = 45 ft)

Select problem completion status from drop-down list:

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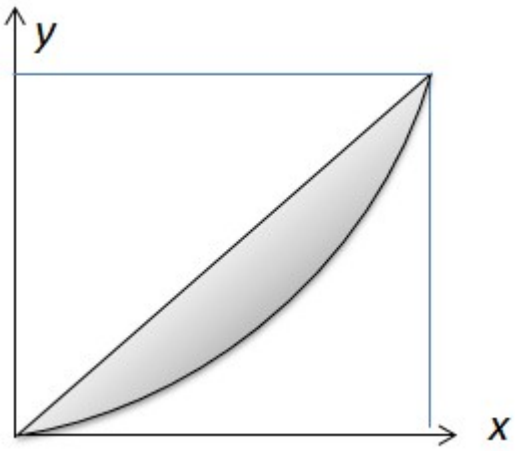
Question 2: (10 points)



Find the centroid ($\bar{x}$, $\bar{y}$) of the shaded area, given the functions:

$y_{UPPER} = 2 \cdot x$ and $y_{LOWER} = (1/8) \cdot x^3$.

The functions intersect at the origin and x = 4.

(ans: $\bar{x} = 2.13$, $\bar{y} = 3.05$)

Select problem completion status from drop-down list:

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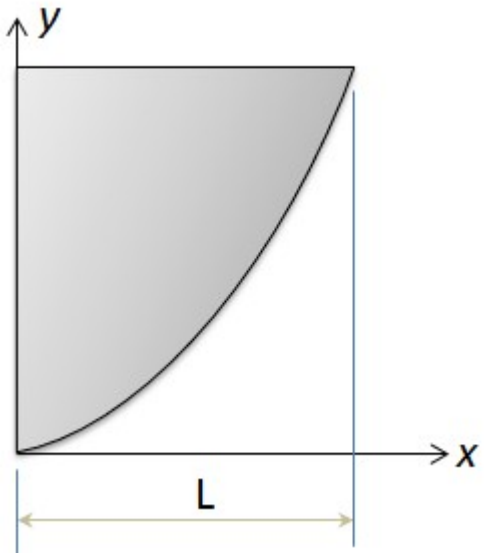
Question 3: (10 points)



Find the moment of inertia for the cross-sectional shape about the *x* and *y* axes, given the function: $\mathbf{y = 3 \cdot x^2}$ and **L** = 2 *mm*.

(ans: $I_X = 987\ mm^4$, $I_Y = 12.8\ mm^4$*)*

Select problem completion status from drop-down list:

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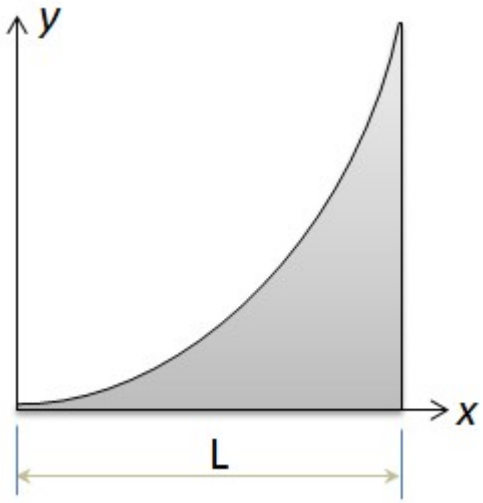
Question 4: (10 points)



Find the moment of inertia for the cross-sectional shape about the *x* and *y* axes, given the function: $\mathbf{y = 2 \cdot x^2}$ and **L** = 1.8 *m*.

(ans: $\boldsymbol{I_X} = 23.3\ m^4$, $\boldsymbol{I_Y} = 7.56\ m^4$*)*

Select problem completion status from drop-down list:

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