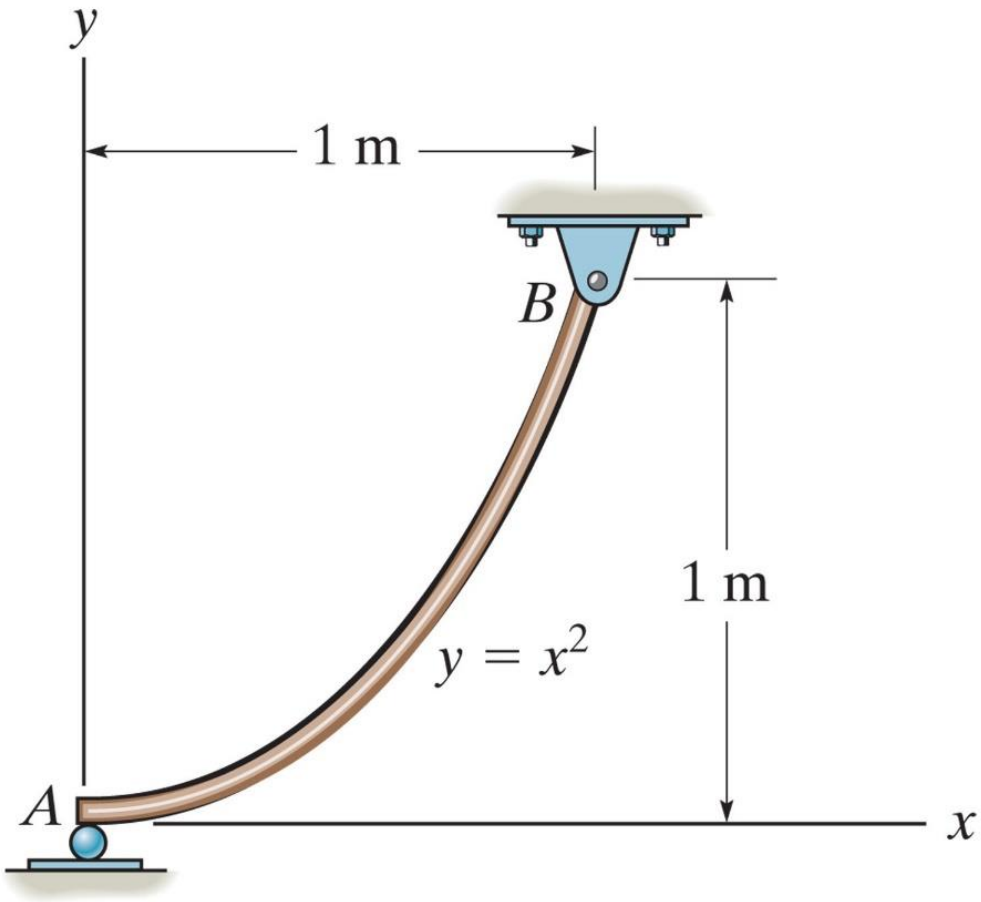
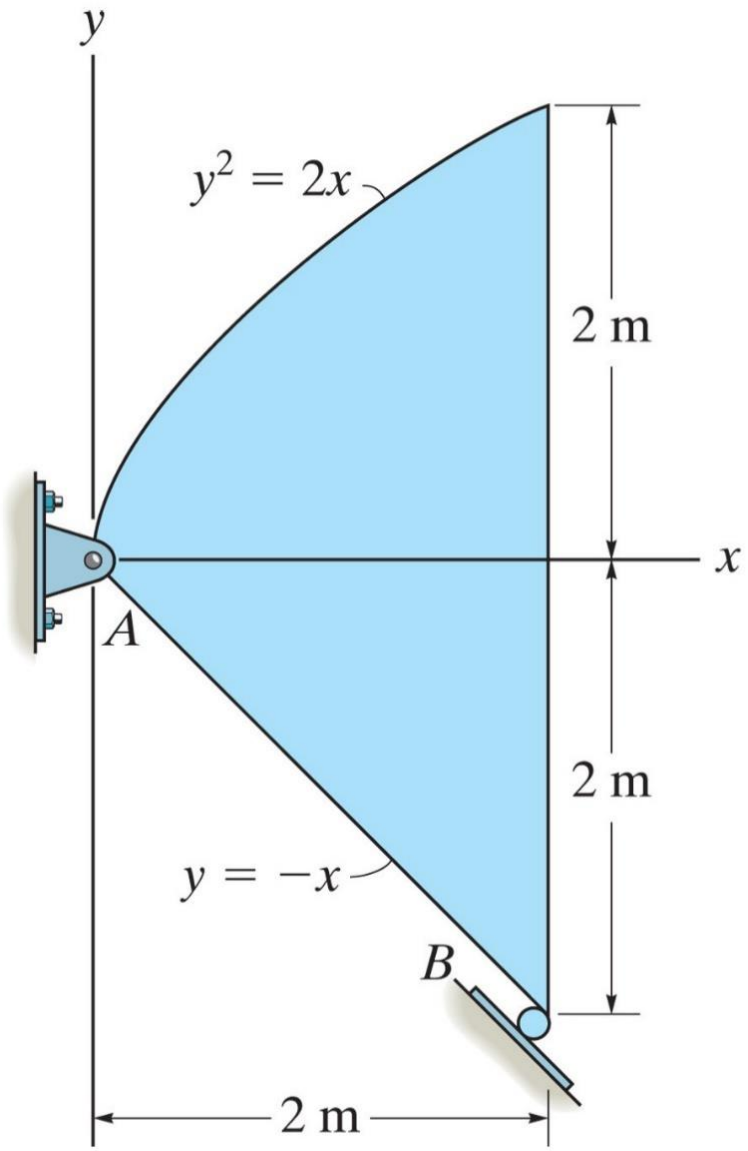
To do ...

- **CBTF Quiz 6** – next week!
- 211 students **DO NOT TAKE** 210 final, or you will get a zero on 211 final

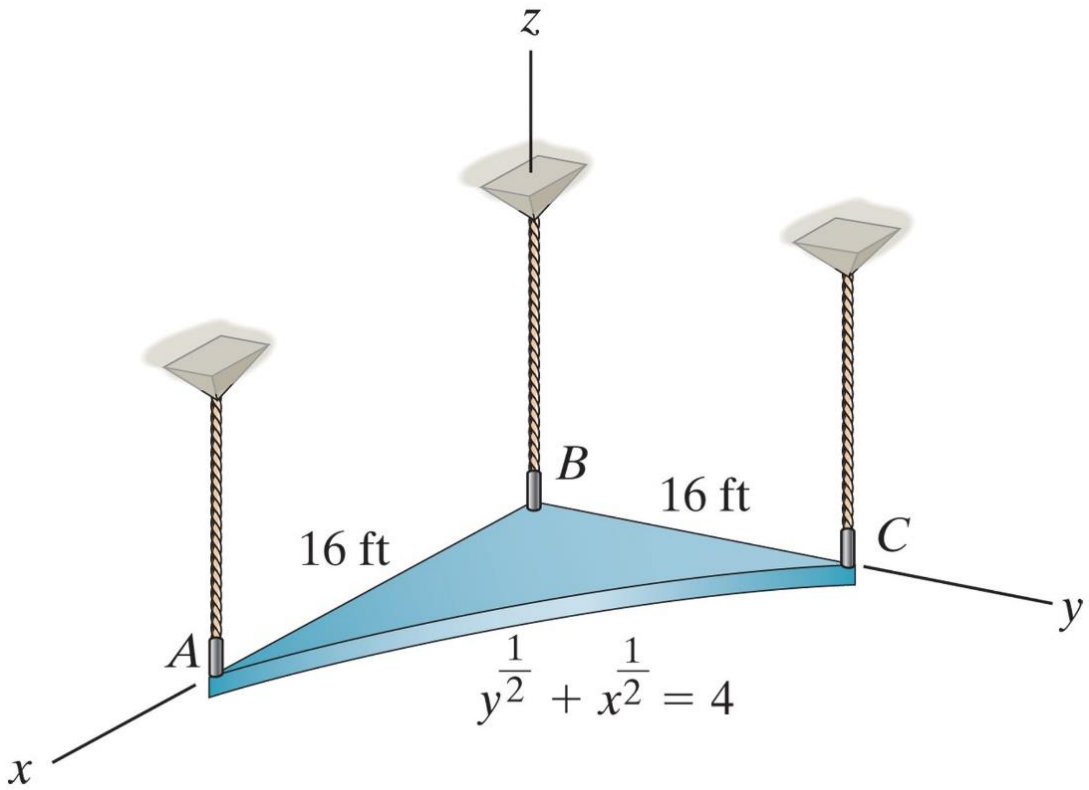
- HW 21 due **Thurs**
- HW 22 due **Tues**



If the rod has a weight per unit length of 100 N/m, determine the reaction supports at *A* and *B*.

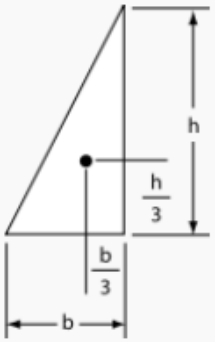
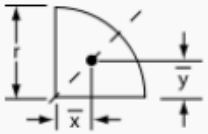
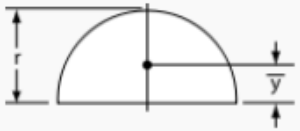
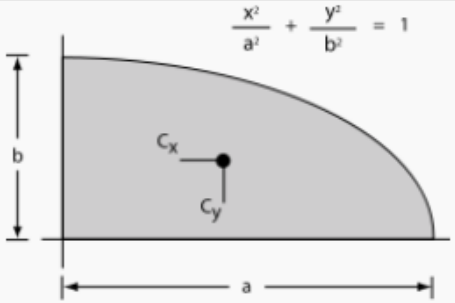
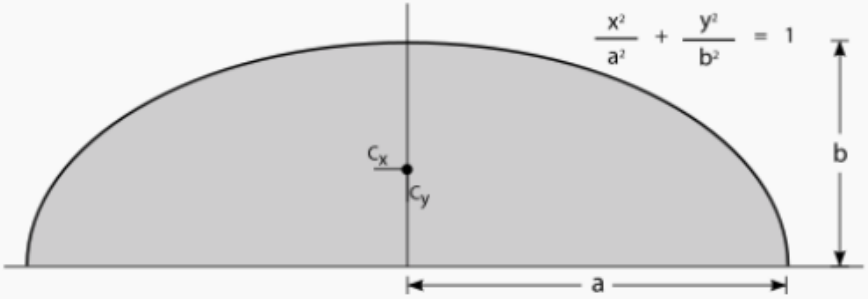


The steel plate is 0.3 m thick and has a density of 7850 kg/m^3. Find the reactions at the pin and roller support.



The plate has a thickness of 0.25 ft and a specific weight of 180 lb/ft^3. Find the tension in each of the cords used to support it.

Centroid of typical 2D shapes

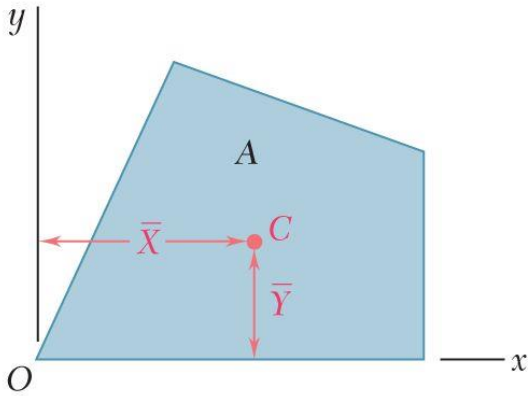
Shape	Figure	$\bar{x}$	$\bar{y}$	Area
Right-triangular area		$\frac{b}{3}$	$\frac{h}{3}$	$\frac{bh}{2}$
Quarter-circular area		$\frac{4r}{3\pi}$	$\frac{4r}{3\pi}$	$\frac{\pi r^2}{4}$
Semicircular area		0	$\frac{4r}{3\pi}$	$\frac{\pi r^2}{2}$
Quarter-elliptical area		$\frac{4a}{3\pi}$	$\frac{4b}{3\pi}$	$\frac{\pi ab}{4}$
Semielliptical area		0	$\frac{4b}{3\pi}$	$\frac{\pi ab}{2}$

http://en.wikipedia.org/wiki/List_of_centroids

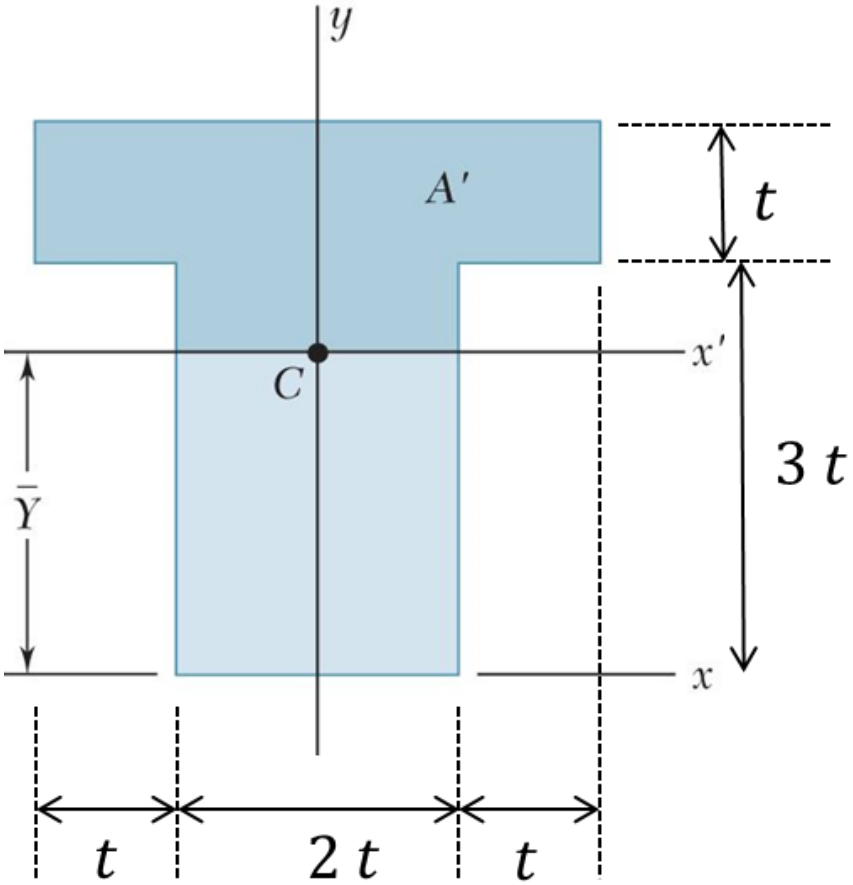
Composite bodies

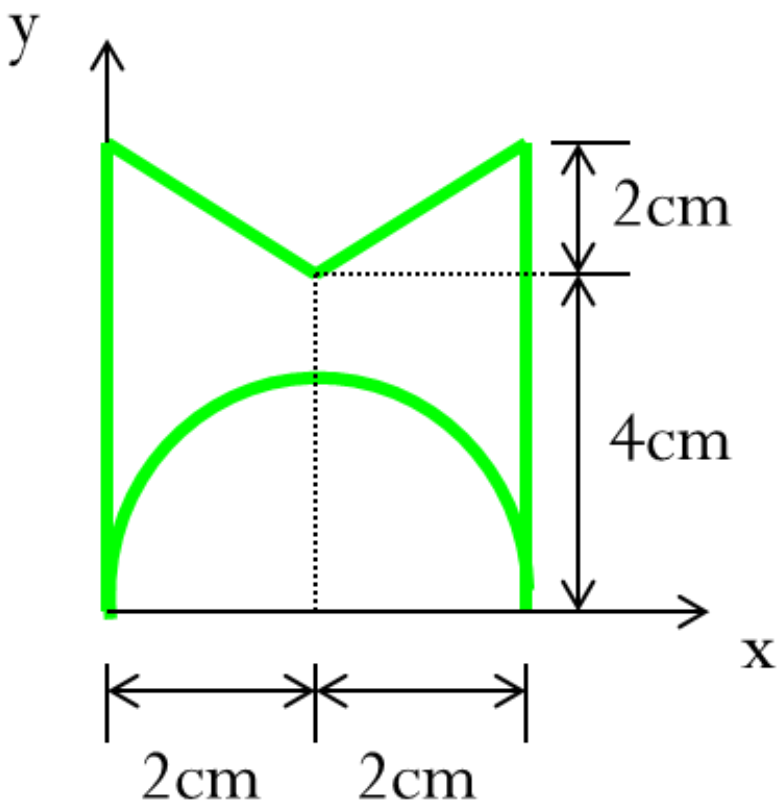
A composite body consists of a series of connected simpler shaped bodies.

Such body can be sectioned or divided into its composite parts and, provided the weight and location of the center of gravity of each of these parts are known, we can then eliminate the need for integration to determine the center of gravity of the entire body.



Find the centroid of the area below.





What is the centroid of the resultant area?