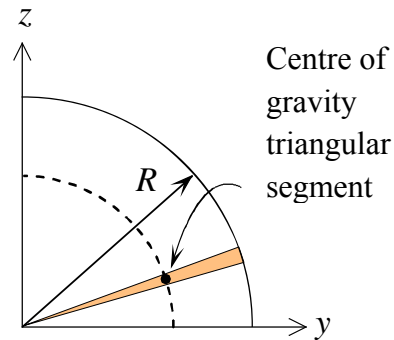


Remarks: See §3.1.4, example 4, pages 86 till 87

Answers 3.11-1:

a. $A = \frac{1}{4} \pi R^2$

b. $y_C = z_C = \frac{4R}{3\pi}$



Explanation 3.11-1:

The centroid of all the infinitesimally small triangular segments of the circle is located at a distance of $\frac{2}{3}R$ from the center. With this information one can make use of the answer from problem 3.10-1.

$$y_C = z_C = \frac{2 \times \frac{2}{3}R}{\pi} = \frac{4R}{3\pi}$$

Explanation 3.11-2:

See the explanation of 3.11-1 and make use of the answer of problem 3.10-2.

$$y_C = 0$$

$$z_C = \frac{2 \times \frac{2}{3}R}{\pi} = \frac{4R}{3\pi}$$

Answers 3.11-2:

a. $A = \frac{1}{2} \pi R^2$

b. $y_C = 0; z_C = \frac{4R}{3\pi}$