

1.5: Summary of the Formulas for Plane Laminas and Curves

Uniform Plane Lamina

$y = y(x)$	$r = r(\theta)$
$\bar{x} = \frac{1}{A} \int_a^b xy dx$ $\bar{y} = \frac{1}{2A} \int_a^b y^2 dx$	$\bar{x} = \frac{2 \int_{\alpha}^{\beta} r^3 \cos \theta d\theta}{3 \int_{\alpha}^{\beta} r^2 d\theta}$ $\bar{y} = \frac{2 \int_{\alpha}^{\beta} r^3 \sin \theta d\theta}{3 \int_{\alpha}^{\beta} r^2 d\theta}$

Uniform Plane Curve

$y = y(x)$	$r = r(\theta)$
$\bar{x} = \frac{1}{L} \int_a^b x \left[1 + \left(\frac{dy}{dx} \right)^2 \right]^{\frac{1}{2}} dx$ $\bar{y} = \frac{1}{L} \int_a^b y \left[1 + \left(\frac{dy}{dx} \right)^2 \right]^{\frac{1}{2}} dx$	$\bar{x} = \frac{1}{L} \int_{\alpha}^{\beta} r \cos \theta \left[\left(\frac{dr}{d\theta} \right)^2 + r^2 \right]^{\frac{1}{2}} d\theta$ $\bar{y} = \frac{1}{L} \int_{\alpha}^{\beta} r \sin \theta \left[\left(\frac{dr}{d\theta} \right)^2 + r^2 \right]^{\frac{1}{2}} d\theta$

This page titled [1.5: Summary of the Formulas for Plane Laminas and Curves](#) is shared under a [CC BY-NC 4.0](#) license and was authored, remixed, and/or curated by [Jeremy Tatum](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.