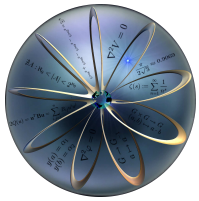

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## mean curvature (plane curve)

| | |
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| Defines | total curvature |
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Let $\Gamma$ be a piecewise $C^1$ planar curve.

The *total curvature*, $\kappa_{total}$ , of $\Gamma$ is defined to be $\int_\Gamma |\kappa(s)|ds$ where $\Gamma$ is parameterized by arclength $s$ and $\kappa(s)$ is the `http://planetmath.org/CurvatureOfACurve`curvature of $\Gamma$.

The *mean curvature* of $\Gamma$ is defined to be the ratio of the total curvature to the length of $\Gamma$ :

$$M(\Gamma) = \frac{\kappa_{total}(\Gamma)}{L(\Gamma)}$$