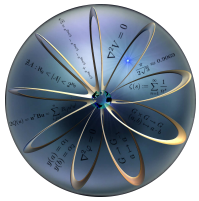

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properties of parallel curves

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- Two plane curves are parallel curves of each other, if every normal of one curve is also a normal of the other curve (then one may show that the distance of the corresponding points of the curves is a).
- Two curves are parallel curves of each other, if they are the loci of the end points of a line segment which moves perpendicularly to its own direction.
- Every regular curve having a continuous curvature has an infinite family of parallel curves.
- The parallelism of curves is an equivalence relation.
- The two parallel curves $\gamma_{\pm a}$ on both sides of a curve γ at the distance a form the envelope of the family of circles with center on γ and radius a.
- If γ is a and closed curve with perimeter p, then the perimeter of $\gamma_{\pm a}$ is equal to $p \pm 2\pi a$ and the area between γ and the parallel curve is equal to $pa \pm \pi a^2$ (one must also assume that the parallel curve don't intersect the evolute of γ).