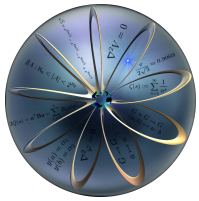

planetmath.org

Math for the people, by the people.

piecewise smooth

Canonical name	PiecewiseSmooth
Date of creation	2013-03-22 12:53:26
Last modified on	2013-03-22 12:53:26
Owner	cvalente (11260)
Last modified by	cvalente (11260)
Numerical id	7
Author	cvalente (11260)
Entry type	Definition
Classification	msc 51N05
Related topic	Rectifiable

A curve $\alpha : [a, b] \to \mathbb{R}^n$ is said to be **piecewise smooth** if each component $\alpha_1, \ldots, \alpha_n$ of α has a bounded derivative α_i' $(i = 1, \ldots, n)$ which is continuous everywhere in $[a, b]$ except (possibly) at a finite number of points at which left- and right-sided derivatives exist.

- Every piecewise smooth curve is rectifiable.
- Every rectifiable curve can be approximated by piecewise smooth curves.