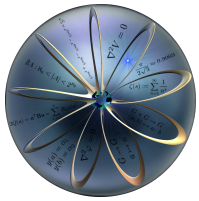

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length of curve in a metric space

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Defines	length of a curve

Suppose that (X, d) is a metric space. Let f be a curve, so that $f : [0, 1] \to X$ is a continuous function, and let $0 = t_0 < t_1 < \cdots < t_n = 1$ and $x_i = f(t_i)$ for $0 \leq i \leq n$. The set $\{x_0, x_1, \ldots, x_n\}$ is called a partition of the curve. The *of the curve* is defined to be the supremum over all partitions of the quantity $\sum_{i=1}^{n} d(x_i, x_{i-1})$.