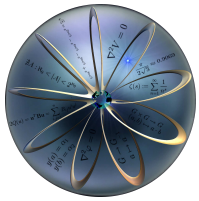

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continuous density function

Canonical name	ContinuousDensityFunction
Date of creation	2013-03-22 11:53:16
Last modified on	2013-03-22 11:53:16
Owner	mathcam (2727)
Last modified by	mathcam (2727)
Numerical id	9
Author	mathcam (2727)
Entry type	Definition
Classification	msc 60-00
Classification	msc 81-00
Classification	msc 18-00
Synonym	mass function

Let X be a continuous random variable. The function $f_X: \mathbb{R} \to [0,1]$ defined as $f_X(x) = \frac{\partial F_X}{\partial x}$, where $F_X(x)$ is the http://planetmath.org/CumulativeDistributionFunc distribution function of X, is called the *continuous density function* of X. Please note that if X is a continuous random variable, then $f_X(x)$ does not equal $P[X = x]$; for more information read the article on cumulative distribution functions.

Analogously to the discrete case, this function must satisfy:

1. $f_X(x) \geq 0$ for all x
2. $\int_x f_X(x)dx = 1$