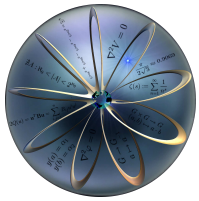

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uniform (continuous) random variable

Canonical name	UniformcontinuousRandomVariable
Date of creation	2013-03-22 11:54:18
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Numerical id	10
Author	mathcam (2727)
Entry type	Definition
Classification	msc 60-00
Synonym	uniform random variable
Synonym	rectangular distribution
Synonym	uniform distribution

A random variable X is said to be a *() random variable* with parameters a **and** b if its probability density function is given by

$$f_X(x) = \frac{1}{b-a}, \qquad x \in [a, b],$$

and is denoted $X \sim U(a, b)$.

Notes:

1. They are also called *rectangular distributions*, considers that all points in the interval $[a, b]$ have the same mass.
2. $E[X] = \frac{a+b}{2}$
3. $Var[X] = \frac{(b-a)^2}{12}$
4. $M_X(t) = \frac{e^{bt}-e^{at}}{(b-a)t}$