



Definition

Given a distribution $p : \Omega \rightarrow \mathbf{R}$, the *cumulative distribution* (or *cumulative distribution function*, *cdf*) of a random variable $x : \Omega \rightarrow \mathbf{R}$ is the function $F : \mathbf{R} \rightarrow \mathbf{R}$ defined by

$$F(t) = \mathbf{P}(x \leq t),$$

for all $t \in \mathbf{R}$.

Properties

The cumulative distribution of any random variable is

1. *piecewise constant* and
2. *right continuous*.

