

RANDOM VARIABLE LAWS

Why

We name the image measures of real-valued random variables.

Definition

The *law* of a real-valued random variable, using the topological sigma algebra, is the image measure of the probability measure under the random variable Recall that

Notation

Let (X, \mathcal{A}) and (Y, \mathcal{B}) be two measurable spaces. Let $f: X \to Y$ be a random variable. Let $\mu: \mathcal{A} \to [0, \infty]$ be a probability measure. We denote the law of f by μ_f .

