

EXPECTATION

Why

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Definition

The expectation (or expected value) of a real-valued random variable defined on a probability space is its integral with respect to the probability measure. The expectation of a random variable is also called its mean.

Notation

Let (X, \mathcal{A}, μ) be a probability space and $f: X \to \mathbb{R}$ be a random variable. We denote the expectation of f by $\mathbb{E} f$. We defined it by

$$\mathbf{E} f = \int f d\mu.$$

¹Future editions will include this.

