Expectation

1 Why

TODO

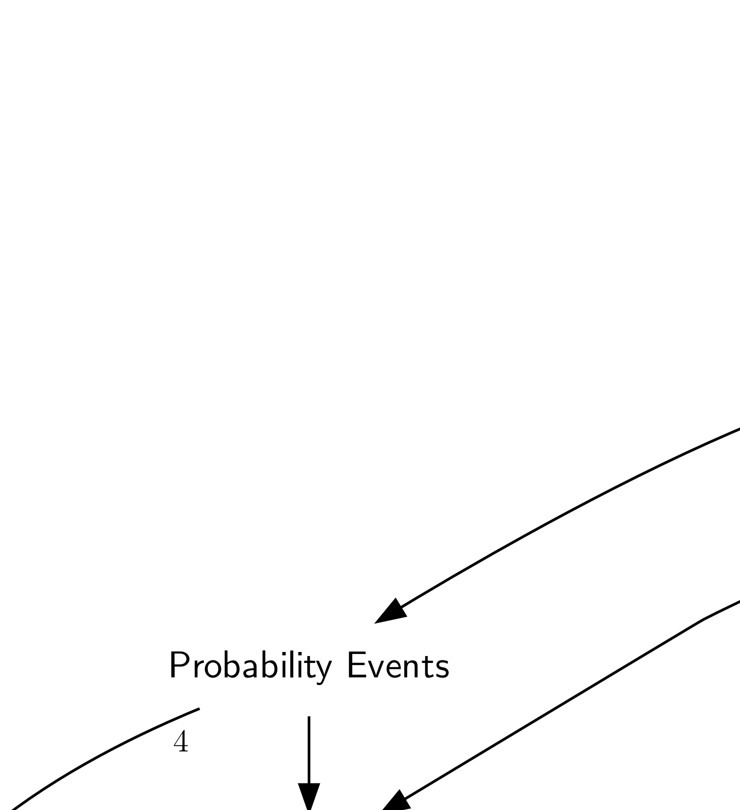
2 Definition

The *expectation* of a real-valued random variable defined on a probability space is its integral with respect to the probability measure.

2.1 Notation

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

$$\mathsf{E}\, f = \int f d\mu.$$


Probability Events
4