



Distributions

1 Why

We want to talk about probability over finite sets.

2 Definition

A **distribution** is real-valued function on a finite set with two properties. First, the result of the distribution on each element of the set is nonnegative. Second, the sum of the results of all elements of the set sum to one.

2.1 Notation

Let A be a finite set. Let R be the real numbers. Let $p : A \rightarrow R$.

p is a distribution if

1. $p(a) \geq 0$ for every $a \in A$
2. $\sum_{a \in A} p(a) = 1$