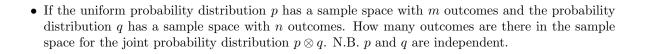
## The information contained in uniform MathsNET distributions

•	Explain the meaning of the term functional
•	State Khitchine's four axioms for the information
•	Explain what we mean when we state that a function or functional is monotonically decreasing.
•	Now explain why the information in a uniform distribution decreases monotonically with the size of the sample space.

## The information contained in uniform MathsNET distributions A joined up approach to teaching and learning mathematics



• Explain why the information in a uniform probability distribution must be a function of  $\frac{1}{n}$  where n is the number of

• Hence, explain why the information in a uniform distribution, p, is given by:  $I(p) = -k \ln n$ .