

## bounded-expectation<sup>11,40</sup>

$\forall p:\text{FinProbSpace}, f:(\mathbb{N} \rightarrow \mathbb{N}), X:(n:\mathbb{N} \rightarrow \text{RandomVariable}(p;f(n))), B:\mathbb{Q}.$   
 $(\forall n:\mathbb{N}, i:\{0..n^-\}. f(i) < f(n))$   
 $\Rightarrow (\forall n:\mathbb{N}, i:\{0..n^-\}. X(i) \leq X(n))$   
 $\Rightarrow 0 < B$   
 $\Rightarrow (\forall n:\mathbb{N}. 0 \leq X(n) \ \& \ E(f(n);X(n)) < B)$   
 $\Rightarrow \text{nullset}(p;(X(n) \rightarrow \infty \text{ as } n \rightarrow \infty))$