

## strong-law-of-large-numbers<sup>11,40</sup>

$\forall p:\text{FinProbSpace}, f:(\mathbb{N} \rightarrow \mathbb{N}), X:(n:\mathbb{N} \rightarrow \text{RandomVariable}(p;f(n))).$   
 $\text{rv-iid}(p;n.f(n);n.X(n))$   
 $\Rightarrow (\forall \text{mean}:\mathbb{Q}.$   
     $(\text{E}(f(0);X(0)) = \text{mean})$   
     $\Rightarrow \text{nullset}(p;\lambda s.\exists q:\mathbb{Q}$   
         $(0 < q$   
         $\& (\forall n:\mathbb{N}.$   
             $\exists m:\mathbb{N}. ((n < m) \& q \leq |\sum_{0 \leq i < m}. (1/m) * (X(i)(s)) - \text{mean}|))))))$