

slln-lemma2^{11,40}

$\forall p:\text{FinProbSpace}, f:(\mathbb{N} \rightarrow \mathbb{N}), X:(n:\mathbb{N} \rightarrow \text{RandomVariable}(p;f(n))), s, k:\mathbb{Q}.$
 $(\forall n:\mathbb{N}, i:\{0..n^-\}. f(i) < f(n))$
 $\Rightarrow (\forall n:\mathbb{N}.$
 $E(f(n);X(n)) = 0 \in \mathbb{Q}$
 $\& E(f(n);(x.x * x) \circ X(n)) = s$
 $\& E(f(n);(x.(x * x) * x * x) \circ X(n)) = k)$
 $\Rightarrow (\forall n:\mathbb{N}, i:\{0..n^-\}. \text{rv-disjoint}(p;f(n);X(i);X(n)))$
 $\Rightarrow (\exists B:\mathbb{Q}$
 $(\forall n:\mathbb{N}.$
 $E(f(n);\text{rv-partial-sum}(n;k.\text{if}(k =_0 0)$
 $\text{then } 0$
 $\text{else } (x.(x * x) * x * x) \circ (1/k)*\text{rv-partial-sum}(k;i.X(i))$
 $\text{fi})) \leq B)$