iteration_terminates[4,23]

$\forall T$:Type, f:$(T{\to}T)$, m:$(T{\to}\mathbb{N})$.
$(\forall x$:$T.\ m(f(x)){\leq}m(x)$ & $(m(f(x)) = m(x) \in \mathbb{Z} \Rightarrow f(x) = x)) \Rightarrow (\forall x$:$T.\ \exists n$:$\mathbb{N}.\ f(f^n(x)) = f^n(x))$