

**Definition:** The length of a linked list of natural numbers  $L$ ,  $length : L \rightarrow \mathbb{N}$  is defined by

Basis Step:  $length( [] ) = 0$   
Recursive Step: If  $l \in L$  and  $n \in \mathbb{N}$ , then  $length( (n, l) ) = 1 + length(l)$