|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Θ , ! : (Nat -> Nat) , n : Nat(n) = Nat  Var  ---------------------------------------------  Θ , ! : (Nat -> Nat) , n : Nat !- n : Nat  Zero  ---------------------------------------------  Θ , ! : (Nat -> Nat) , n : Nat !- (zero? n) : Bool | Nat-Axiom  ------------------------------------------------------  Θ , ! : (Nat -> Nat) , n : Nat !- 1 : Nat | |  |  |  |  | | --- | --- | --- | --- | | Θ , ! : (Nat -> Nat) , n : Nat(n) = Nat  Var  ----------------------  Θ , ! : (Nat -> Nat) , n : Nat !- n : Nat | |  |  | | --- | --- | | Θ , ! : (Nat -> Nat) , n : Nat !- ! : Nat -> Nat | Θ , ! : (Nat -> Nat) , n : Nat !- (sub1 n) : Nat  Sub1  --------  Θ , ! : (Nat -> Nat) , n : Nat !- (sub1 n) : Nat | |   \*  ----------------------------------------------------  Θ , ! : (Nat -> Nat) , n : Nat !- (\* n (! (sub1 n))) : Nat |

if

Θ , ! : (Nat -> Nat) , n : Nat !- (if (zero? n) 1 (\* n (! (sub1 n)))))) : Nat

Abstr

Θ , ! : (Nat -> Nat) !- (lambda (n) (if (zero? n) 1 (\* n (! (sub1 n)))))) : Nat -> Nat

Abstr

Θ !- (lambda (!) (lambda (n) (if (zero? n) 1 (\* n (! (sub1 n)))))) : (Nat -> Nat) -> (Nat - > Nat)