

Inference at \*  
of proof for Lemma integer\_sqrt:

$\vdash \forall n:\mathbb{N}. \exists r:\mathbb{N}. (((r * r) \leq n) \& (n < ((r+1) * (r+1))))$   
by D 0 THENA Auto

1:

1.  $n : \mathbb{N}$   
 $\vdash \exists r:\mathbb{N}. (((r * r) \leq n) \& (n < ((r+1) * (r+1))))$   
.