

1:  $\exists x. \neg R(x)$

premise

2:  $\forall y. R(y)$

assumption

3: actual i,  $\neg R(i)$

assumptions

...

4:  $\perp$

5:  $\perp$

$\exists$  elim 1,3-4

6:  $\neg \forall y. R(y)$

$\neg$  intro 2-5