

### Fitch argument

Show that  $\forall x (Tx \rightarrow (Lx \vee Mx))$  given  $\neg \exists x (Tx \wedge Sx)$  and  $\forall y (Sy \vee My \vee Ly)$ . This is how the argument looks like

1	$\neg \exists x (Tx \wedge Sx)$	
2	$\forall y (Sy \vee My \vee Ly)$	
3	$[a] Ta$	
4	$Sa \vee (Ma \vee La)$	$\forall$ Elim 2
5	$Sa$	
6	$Ta \wedge Sa$	$\wedge$ Intro 3,5
7	$\exists x (Tx \wedge Sx)$	$\exists$ Intro 6
8	$\perp$	$\perp$ Intro 1,7
9	$La \vee Ma$	$\perp$ Elim 8
10	$Ma \vee La$	
11	$Ma$	
12	$La$	
13	$La \vee Ma$	$\vee$ Elim 10,11,12
14	$La \vee Ma$	$\vee$ Elim 4,5-9,10-13
15	$\forall x (Tx \rightarrow (Lx \vee Mx))$	$\forall$ Intro 3-14