

the disjunction elimination rule

3		$A \vee B$		3		$A \vee B$	
4		$\neg A$		4		$\neg B$	
5		B	:VE 3,4	5		A	:VE 3,4

Some examples:

3		$\overset{(A)}{P} \vee \overset{(B)}{Q}$	
4		$\neg Q$	$\leftarrow \neg B$
5		P	:VE 3,4

$\nwarrow A$

3		$\neg R$	
4		$\neg R \vee (S \& T)$	
5		$S \& T$:VE 3,4

$\nwarrow A$
 $\nwarrow B$

3		$\neg M \vee T$	
4		M	
5		$\neg \neg M$	$\leftarrow \neg A$:DN 4
6		T	:VE 3,5

$\nwarrow B$

3		Q	
4		$L \vee \neg Q$	
5		$\neg \neg Q$	$\leftarrow \neg B$:DN 3
6		L	:VE 4,5

$\nwarrow A$

To use the disjunction elimination rule, the disjunction (that is, the sentence with the “ \vee ” as the MLO) always has to be treated as having the form $(A \vee B)$.

So, for $(R \vee (S \& T))$, the **A** part is R and the **B** part is $(S \& T)$.

In $(\neg M \vee T)$, the **A** part is $\neg M$ and the **B** part is T .

In $(L \vee \neg Q)$, the **A** part is L and the **B** part is $\neg Q$.

Then, on another line, you must have the **A** part or the **B** part with a \neg before it (i.e., $\neg A$ or $\neg B$ on another line).

And, if **A** is $\neg M$, then $\neg A$ is $\neg \neg M$. If **B** is $\neg Q$, then $\neg B$ is $\neg \neg Q$.