

例1 $\vdash (A \rightarrow (B \rightarrow C)) \rightarrow ((C \rightarrow D) \rightarrow (A \rightarrow (B \rightarrow D)))$

只须证 $A \rightarrow (B \rightarrow C) \vdash (C \rightarrow D) \rightarrow (A \rightarrow (B \rightarrow D))$

只须证 $A \rightarrow (B \rightarrow C), C \rightarrow D \vdash A \rightarrow (B \rightarrow D)$

只须证 $A \rightarrow (B \rightarrow C), C \rightarrow D, A \vdash B \rightarrow D$

只须证 $A \rightarrow (B \rightarrow C), C \rightarrow D, A, B \vdash D$

证明:

1	A	假设	5	$B \rightarrow C$	(1) 与 (4) 用分离规则
2	B	假设	6	C	(2) 与 (5) 用分离规则
3	$C \rightarrow D$	假设	7	D	(6) 与 (3) 用分离规则
4	$A \rightarrow (B \rightarrow C)$	假设			

例2 $\vdash ((A \rightarrow B) \rightarrow (A \rightarrow C)) \rightarrow (A \rightarrow (B \rightarrow C))$

只须证 $(A \rightarrow B) \rightarrow (A \rightarrow C) \vdash A \rightarrow (B \rightarrow C)$

只须证 $(A \rightarrow B) \rightarrow (A \rightarrow C), A \vdash B \rightarrow C$

只须证 $(A \rightarrow B) \rightarrow (A \rightarrow C), A, B \vdash C$

证明:

1	A	假设	6	$A \rightarrow C$	(2) 与 (5) 用分离规则
2	B	假设	7	C	(1) 与 (6) 用分离规则
3	$(A \rightarrow B) \rightarrow (A \rightarrow C)$	假设			
4	$B \rightarrow (A \rightarrow B)$	公理1			
5	$B \rightarrow (A \rightarrow C)$	(4) 与 (3) 用三段论定理8			