

2.4.xa. Exercise answers

The answers below avoid the use of Cnj in order to maximize the use of the rule Adj. In some cases, a mixed use of the two rules would have produced a more natural argument.

1.

	A	(1)
1 Adj	A \wedge A	X,(2)
	•	
	A \wedge A	
2 QED	A \wedge A	

2.

	A \wedge B	1
	B \wedge C	2
	B \wedge D	3
	A	(4)
1 Ext	B	
1 Ext	B	
2 Ext	B	
2 Ext	C	
3 Ext	B	
3 Ext	D	(4)
4 Adj	A \wedge D	X,(5)
	•	
	A \wedge D	
5 QED	A \wedge D	

3.

	A \wedge B	1
1 Ext	A	(2),(3)
1 Ext	B	(2)
2 Adj	B \wedge A	X,(3)
3 Adj	A \wedge (B \wedge A)	X,(4)
	•	
	A \wedge (B \wedge A)	
4 QED	A \wedge (B \wedge A)	

4.

	A	(2)
	B \wedge C	1
	D	
1 Ext	B	(2),(4)
1 Ext	C	(3)
2 Adj	B \wedge A	X,(3)
3 Adj	C \wedge (B \wedge A)	X,(4)
4 Adj	(C \wedge (B \wedge A)) \wedge B	X,(5)
	•	
	(C \wedge (B \wedge A)) \wedge B	
5 QED	(C \wedge (B \wedge A)) \wedge B	

5.

	$A \wedge B$	1
	<hr/>	
1 Ext	A	(2),(3)
1 Ext	B	(2)
2 Adj	$B \wedge A$	X,(3),(4)
3 Adj	$A \wedge (B \wedge A)$	X,(4)
4 Adj	$(B \wedge A) \wedge (A \wedge (B \wedge A))$	X,(5)
	•	
	<hr/>	
5 QED	$(B \wedge A) \wedge (A \wedge (B \wedge A))$	