

c1

P	Q	(P → Q)			Q	P

c2

P	Q	(P → Q)			(Q → P)		

D1

A	(A → A)			A

Valid?

D2

A	(A → A)			~ A	A

Valid?

D3

A	B	(A → B)			B	A

Valid?

D4

A	B	(A → B)			A	B

Valid?

D5

A	B	(A → B)			~ B	~ A

Valid?

D6

A	B	(A → B)			~	A	~	B

Valid?

D7

A	~	~	A

Valid?

D8

A	\sim	\sim	A

Valid?

D9

A	B	C	(A → B)	(B → C)	(A → C)

Valid?

D10

A	B	C	\sim	A	\rightarrow	B	\sim	B	\rightarrow	C	\sim	A	\rightarrow	C

Valid?

D11

A	B	C	A	→	~	B	B	→	~	C	A	→	~	C

Valid?

D12

A	B	C	\sim	(A	\rightarrow	B)	\sim	(B	\rightarrow	C)	\sim	(A	\rightarrow	C)

Valid?

D13

A	B	C	(A → B)	→	(B → C)	(A → B)	(B → C)

Valid?

D14

A	B	C	(A → B)	→	(B → C)	(B → C)	(A → B)

Valid?

D15

A	B	C	$(A \rightarrow B) \rightarrow (B \rightarrow C)$							$\sim (A \rightarrow B)$				$\sim (B \rightarrow C)$			

Valid?

D16

A	B	C	$(A \rightarrow B) \rightarrow (B \rightarrow C)$							$\sim (A \rightarrow B)$				$\sim (B \rightarrow C)$			

Valid?

E1

F	H	$H \rightarrow \sim F$				H	\sim	F

Valid?

Sound?

E2

E	P	$P \rightarrow E$			\sim	E	\sim	P

Valid?

Sound?

