

ampersand-intro Given two sentences (at lines m and n), conclude a conjunction of them.

Annotation: $m, n \ \&I$

Assumption set: The union of the assumption sets at lines m and n .

Comment: The order of lines m and n in the proof is irrelevant. The lines referred to by m and n may also be the same (i.e., it is allowed that $m = n$).

Also known as: Conjunction (CONJ).

Examples.

1	(1)	P	A
2	(2)	Q	A
1,2	(3)	P & Q	1,2 &I
1,2	(4)	Q & P	1,2 &I
1	(5)	P & P	1,1 &I

wedge-elim Given a sentence (at line m) that is a disjunction and another sentence (at line n) that is a denial of one of its disjuncts, conclude the other disjunct.

Annotation: $m, n \ \vee E$

Assumption set: The union of the assumption sets at lines m and n .

Comment: The order of m and n in the proof is irrelevant.

Also known as: *Modus Tollendo Ponens* (MTP), Disjunctive Syllogism (DS).

Examples.

(a)			
1	(1)	$P \vee Q$	A
2	(2)	$\sim P$	A
1,2	(3)	Q	1,2 $\vee E$