(b)

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

(c)

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

wedge-intro Given a sentence (at line *m*), conclude any disjunction having it as a disjunct.

Annotation: ***m*** $\vee$**I**

Assumption set: The same as at line *m*.

Comment: The word 'any' in the statement of this rule should be understood completely literally. There are no restrictions (besides well-formedness) on what may be added to a sentence to form the disjunction.

Also known as: Addition (ADD).

Examples.

(a)

1	(1)	P	A
1	(2)	$P \vee Q$	1 $\vee$I
1	(3)	$(R \leftrightarrow \sim T) \vee P$	1 $\vee$I

(b)

1	(1)	$Q \rightarrow R$	A
1	(2)	$(Q \rightarrow R) \vee (P \,\&\, \sim S)$	1 $\vee$I

arrow-elim Given a conditional sentence (at line *m*) and another sentence that is its antecedent (at line *n)*, conclude the consequent of the conditional.

Annotation: ***m,n*** $\rightarrow$**E**