

Use the gappy truth table method to determine whether the following argument is valid:

$$\begin{array}{l} (A \ \& \ (B \vee \sim C)) \\ (C \vee (A \ \& \ B)) \\ \sim(A \ \& \ C) \end{array}$$

Step 1: Determine in which rows the conclusion comes out false. Click on the question mark for assistance.

A	B	C	$(A \ \& \ (B \vee \sim C))$	$(C \vee (A \ \& \ B))$	$\sim(A \ \& \ C)$
T	T	T			?
T	T	F			?
T	F	T			?
T	F	F			?
F	T	T			?
F	T	F			?
F	F	T			?
F	F	F			?

Step 2: Compute the truth values for the premises on the rows where the conclusion is false:

A	B	C	$(A \ \& \ (B \vee \sim C))$	$(C \vee (A \ \& \ B))$	$\sim(A \ \& \ C)$
T	T	T	?	?	F
T	T	F			
T	F	T	?	?	F
T	F	F			
F	T	T			
F	T	F			
F	F	T			
F	F	F			

Step 3: Inspect your results and state the conclusion:

A	B	C	$(A \ \& \ (B \vee \sim C))$	$(C \vee (A \ \& \ B))$	$\sim(A \ \& \ C)$
T	T	T	T	T	F
T	T	F			
T	F	T	F		F
T	F	F			
F	T	T			
F	T	F			
F	F	T			
F	F	F			

Result: The first row is an invalidating row. Therefore the argument is invalid.

[Do another?](#)

Information about your selection will appear here.