Procedure for the derivation worksheet

Enter any premises of the argument as initial assumptions, enter its conclusion as a goal, and apply the following as often as necessary.

1. *Find the open gaps.*
   - If there are none, all gaps are closed, and you've shown that the initial argument is valid.
   - If there is at least one, pick one to work on, and go on to step 2.
2. *Find the proximate argument of the gap.* List the active resources and goal of the gap, and go on to step 3.
3. *Find any gap-closing rules that apply (listing names under the conclusion of the proximate argument).*

conditions for closing the gap	*rule*
the goal is among the resources	QED
the goal is ⊥, and there are resources φ and ¬ φ	Nc
the goal is ⊤	ENV
⊥ is a resource	EFQ

   - If there aren't any, go on to step 4.
   - If there is at least one, pick one, use it to close the gap, and go back to step 1.
4. *List any rules that can be used to exploit resources or plan for the goal (listing names under the sentences in the proximate argument they apply to).*

kind of sentence		*exploitation rule*	*planning rule*
conjunction		Ext	Cnj
negated	atomic sentence	*none*	RAA
	non-atomic sent.	CR (when the goal is ⊥)	
atomic sentence		*none*	IP
⊤ or ⊥		*none*	*none*

   - If there aren't any, you've reached a dead-end open gap, and you've shown that the initial argument is not valid.
   - If there is at least on, pick one, apply it, and go back to step 1.