

- Try to reason out the argument for yourself.
- Begin with a sketch of an outline of a derivation, and then fill in the details.
- Write down obvious consequences.
- When no other strategy is obvious, try indirect derivation.

To Derive:	Try this:
$\Box \wedge \bigcirc$	Derive each conjunct, and adjoin them with <b>adj</b>
$\Box \vee \bigcirc$	(1) Derive either disjunct and use <b>add</b> , or (2) Assume $\neg(\Box \vee \bigcirc)$ for indirect derivation and immediately use <b>dm</b> , or (3) Derive $\neg\Box \rightarrow \bigcirc$ and use <b>cdj</b> .
$\Box \rightarrow \bigcirc$	Use conditional derivation <b>cd</b> . Assume $\Box$ , show $\bigcirc$ .
$\Box \leftrightarrow \bigcirc$	Derive both conditionals and use <b>cb</b> .
$\neg(\Box \wedge \bigcirc)$	Assume $\Box \wedge \bigcirc$ for indirect derivation.
$\neg(\Box \vee \bigcirc)$	Derive $\neg\Box \wedge \neg\bigcirc$ and use <b>dm</b> .
$\neg(\Box \leftrightarrow \bigcirc)$	Derive $\Box \leftrightarrow \neg\bigcirc$ and use <b>nb</b> .

If Available:	Try this:
$\Box \wedge \bigcirc$	Simplify and use the conjuncts singly.
$\Box \vee \bigcirc$	(1) Derive the negation of one of the disjuncts, and use <b>mtp</b> , or (2) Set things up to use <b>sc</b> , by deriving the two conditionals $\Box \rightarrow \Delta$ and $\bigcirc \rightarrow \Delta$ .
$\Box \rightarrow \bigcirc$	Derive the antecedent to set up <b>mp</b> , or derive the negation of the consequent, to set up <b>mt</b> .
$\Box \leftrightarrow \bigcirc$	Infer both conditionals and use them with <b>mp</b> , <b>mt</b> , and so on.
$\neg(\Box \wedge \bigcirc)$	Use <b>dm</b> to turn this into $\neg\Box \vee \neg\bigcirc$ , then simplify and use the conjuncts singly.
$\neg(\Box \vee \bigcirc)$	Use <b>dm</b> to turn this into $\neg\Box \wedge \neg\bigcirc$ , then simplify and use the conjuncts singly.
$\neg(\Box \leftrightarrow \bigcirc)$	Use <b>nb</b> to turn this into $\Box \leftrightarrow \neg\bigcirc$ , and use <b>bc</b> to get the corresponding conditionals.