$$(\text{gthy}) = \frac{A \vdash A}{A, (A \to B) \vdash A} = (\text{gthy}) = \frac{A \to B \vdash A \to B}{(A \to B), A \vdash A} = (\text{gthy}) = \frac{A \to B \vdash A \to B}{(A \to B), A \vdash A} = \frac{B \to C \vdash B \to C}{(B \to C), (A \to B) \vdash B \to C} = \frac{(\text{gthy})}{(B \to C), (A \to B), (B \to C), A \vdash B} = \frac{B \to C \vdash B \to C}{(B \to C), (A \to B) \vdash B \to C} = \frac{(\text{gthy})}{(B \to C), (A \to B), (A \to B), A \vdash B \to C} = \frac{(A \to B), (B \to C), A \vdash B \to C}{(A \to B), (B \to C), A \vdash B \to C} = \frac{(A \to B), (B \to C), A \vdash C}{(A \to B), (B \to C), A \vdash C} = \frac{A \land B \vdash A \land B}{(A \to B), (B \to C)} = \frac{A \land B \vdash A \land B}{(A \land B) \to A} = \frac{(\land A \to B), (\land A \to B), (\land B \to C), A \vdash C}{(\land A \to B), (A \to$$