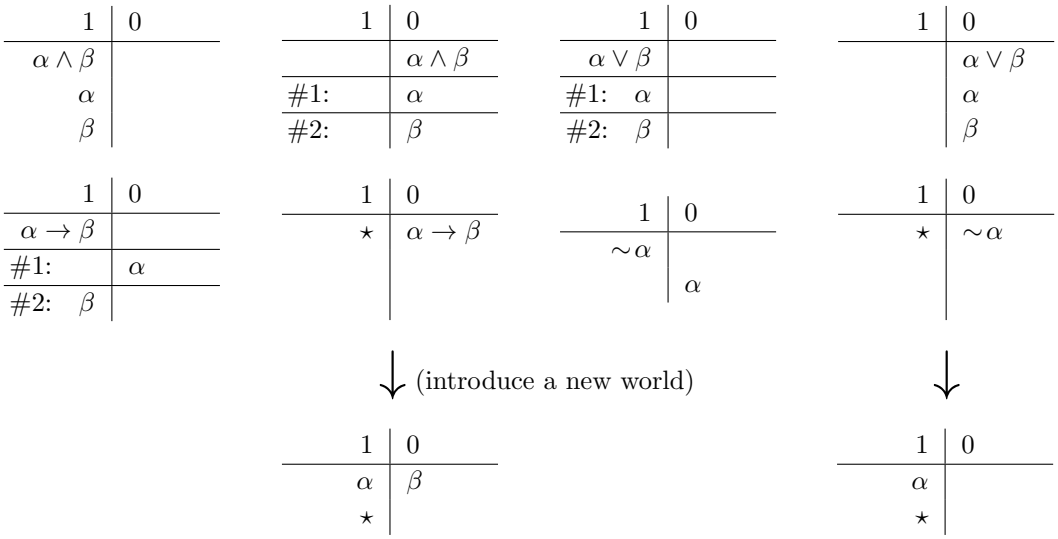

1. Using the definitions, show that the formulas below are intuitionistic tautologies.

   - $p \to p$
   - $p \to \sim\sim p$ (What about $\sim\sim p \to p$?)
   - $\sim p \to \sim\sim\sim p$

2. Using the method of analytic tables decide whether the following formulas are intuitionistic tautologies.

   (a) $p \vee \sim p$

   (b) $p \to \sim\sim p$

   (c) $\sim\sim p \to p$

   (d) $(p \to q) \vee (q \to p)$

   (e) $q \vee (q \to (p \vee \sim p))$