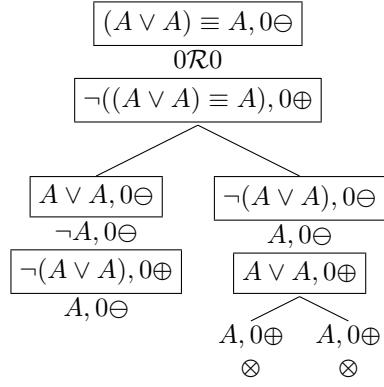


$$(1) \emptyset \not\models (A \vee A) \equiv A$$



Counter Model:

$$\begin{aligned} \mathcal{W} &= \{w_0\} \\ \mathcal{R} &= \{\langle w_0, w_0 \rangle\} \\ \nu_{w_0}(A) &= .5 \end{aligned}$$