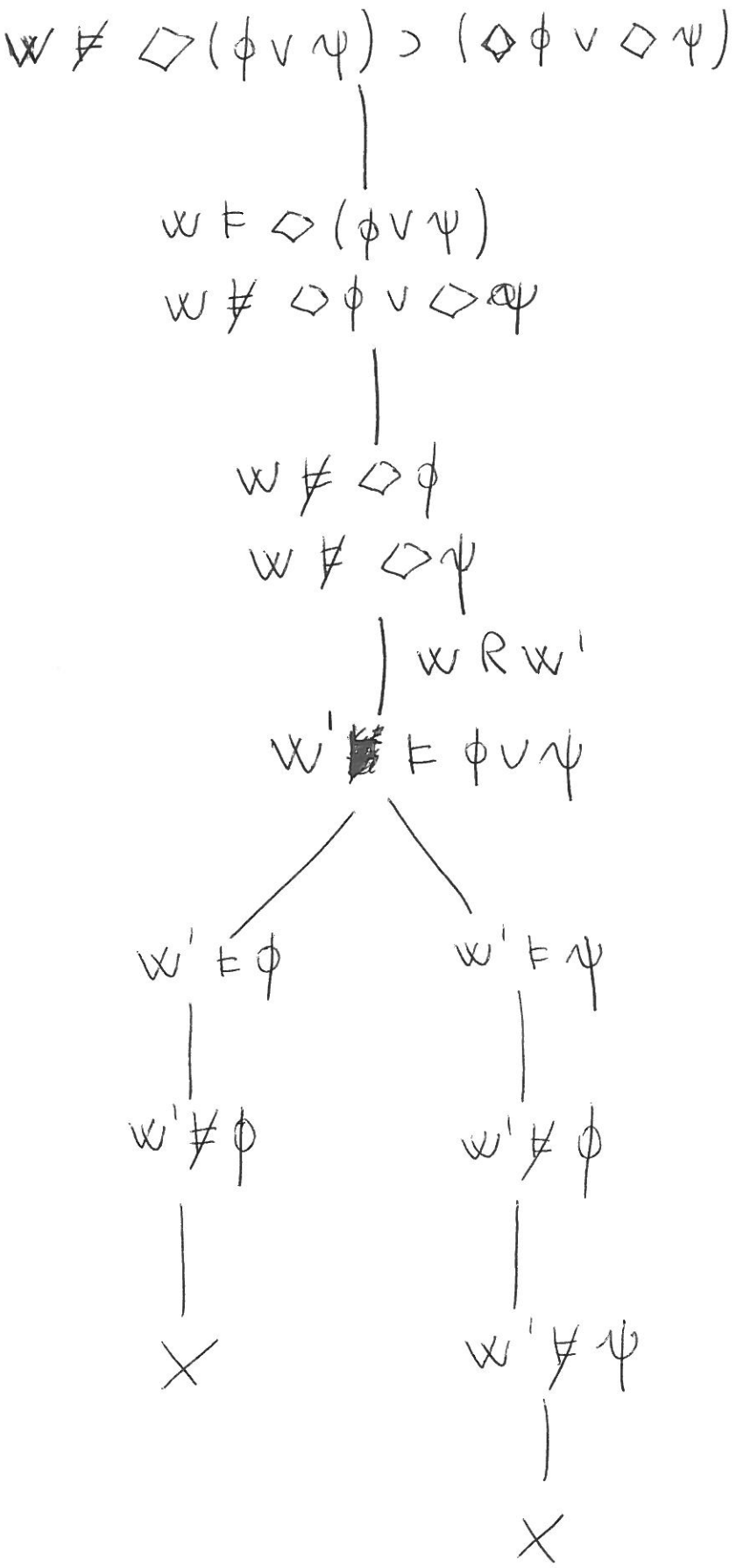
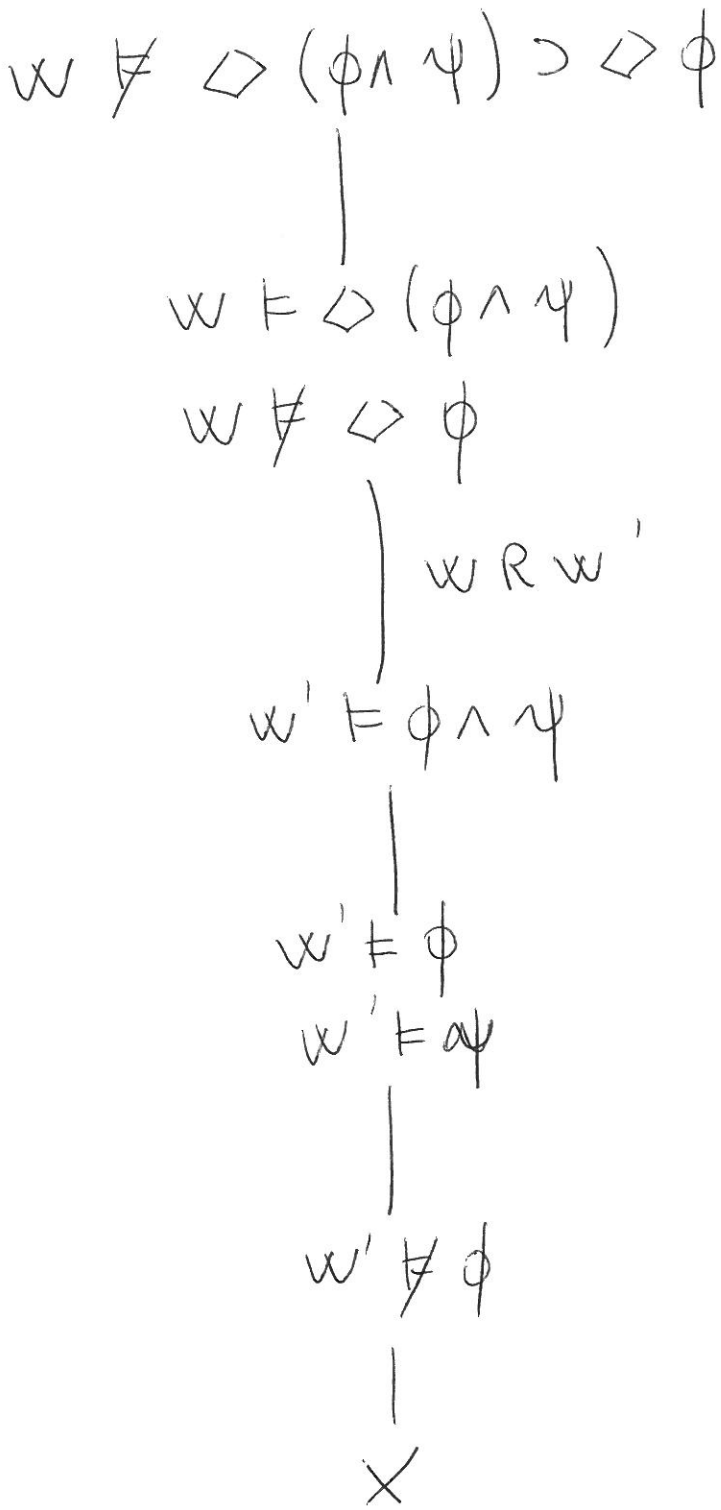
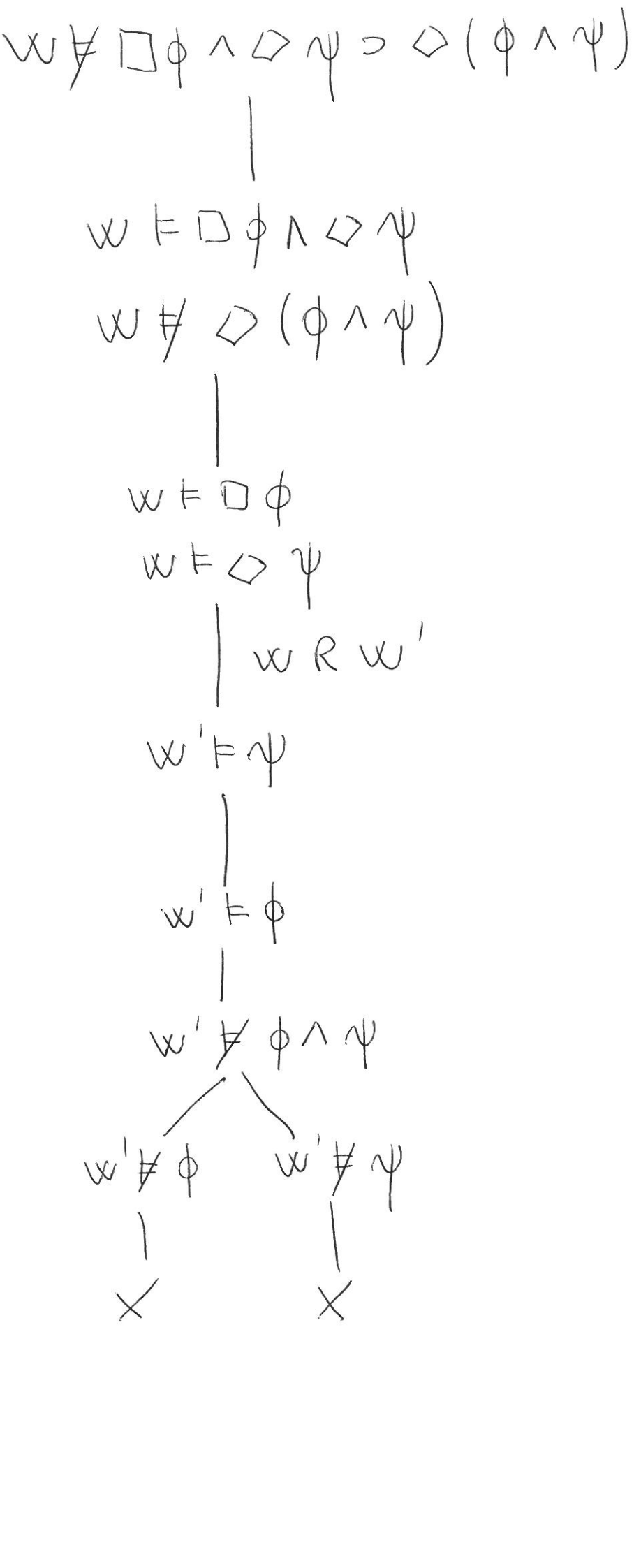
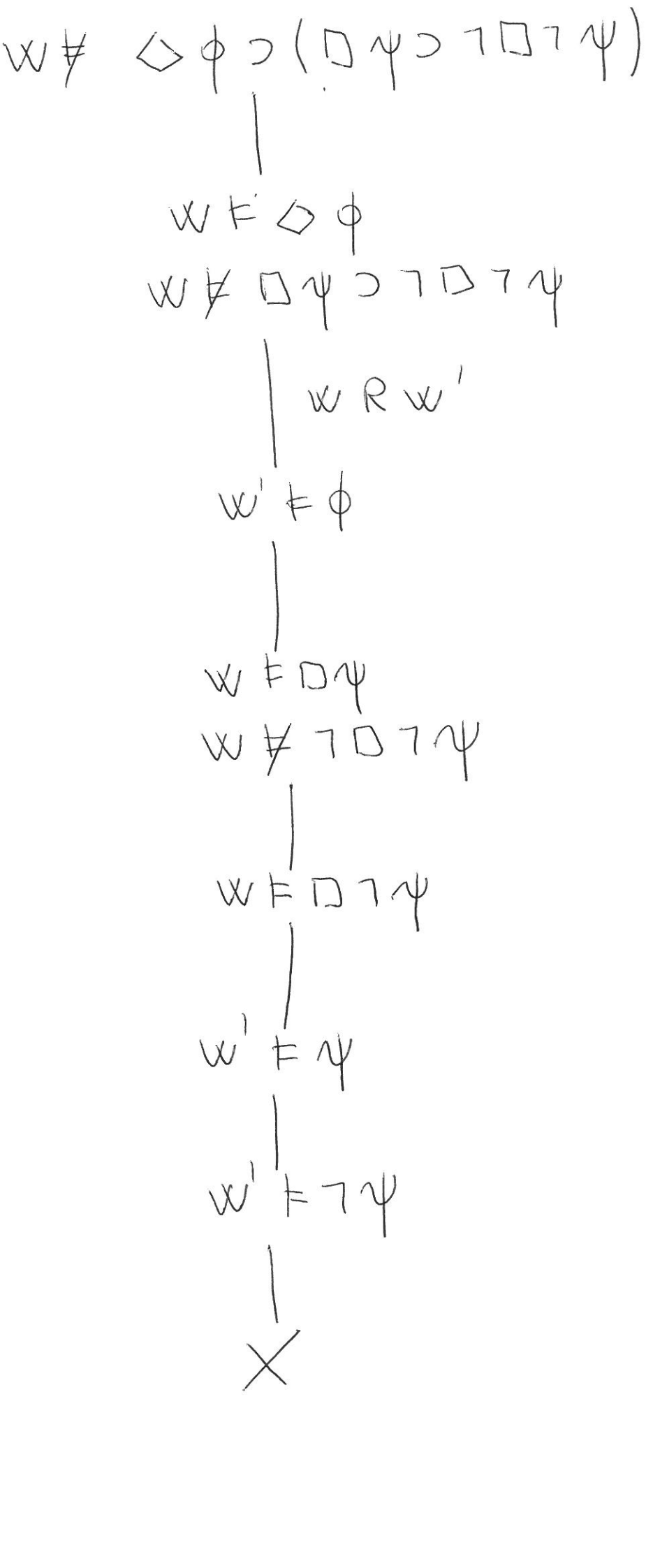

w ⊭ ◇(ϕ ∨ ψ) ⊃ (◇ϕ ∨ ◇ψ)
w ⊨ ◇(ϕ ∨ ψ)
w ⊭ ◇ϕ ∨ ◇ψ
w ⊭ ◇ϕ
w ⊭ ◇ψ
wRw'
w' ⊨ ϕ ∨ ψ
w' ⊨ ϕ
w' ⊭ ϕ
X
w' ⊨ ψ
w' ⊭ ϕ
w' ⊭ ψ
X


$w \not\Vdash \Diamond(\phi \wedge \psi) \supset \Diamond\phi$
$w \Vdash \Diamond(\phi \wedge \psi)$
$w \not\Vdash \Diamond\phi$
$w R w'$
$w' \Vdash \phi \wedge \psi$
$w' \Vdash \phi$
$w' \Vdash \psi$
$w' \not\Vdash \phi$
X


$w \not\models \Box\phi \wedge \Diamond\psi \supset \Diamond(\phi \wedge \psi)$
$w \models \Box\phi \wedge \Diamond\psi$
$w \not\models \Diamond(\phi \wedge \psi)$
$w \models \Box\phi$
$w \models \Diamond\psi$
$w R w'$
$w' \models \psi$
$w' \models \phi$
$w' \not\models \phi \wedge \psi$
$w' \not\models \phi$
$w' \not\models \psi$
X
X


w ⊭ ◇ϕ ⊃ (□ψ ⊃ ¬□¬ψ)
w ⊩ ◇ϕ
w ⊭ □ψ ⊃ ¬□¬ψ
w R w'
w' ⊩ ϕ
w ⊩ □ψ
w ⊭ ¬□¬ψ
w ⊩ □¬ψ
w' ⊩ ψ
w' ⊩ ¬ψ
X

$w \not\models \Diamond^n \top \supset \neg \Box^m \bot$ $\quad m \leq n$

$w \models \Diamond^n \top$

$w \not\models \neg \Box^m \bot$

$w \models \Box^m \bot$

$w R w'$

$w' \models \Diamond^{n-1} \top$

$w' R w''$

$w'' \models \Diamond^{n-2} \top$

$n-2$ volte

$w^n \models \top$

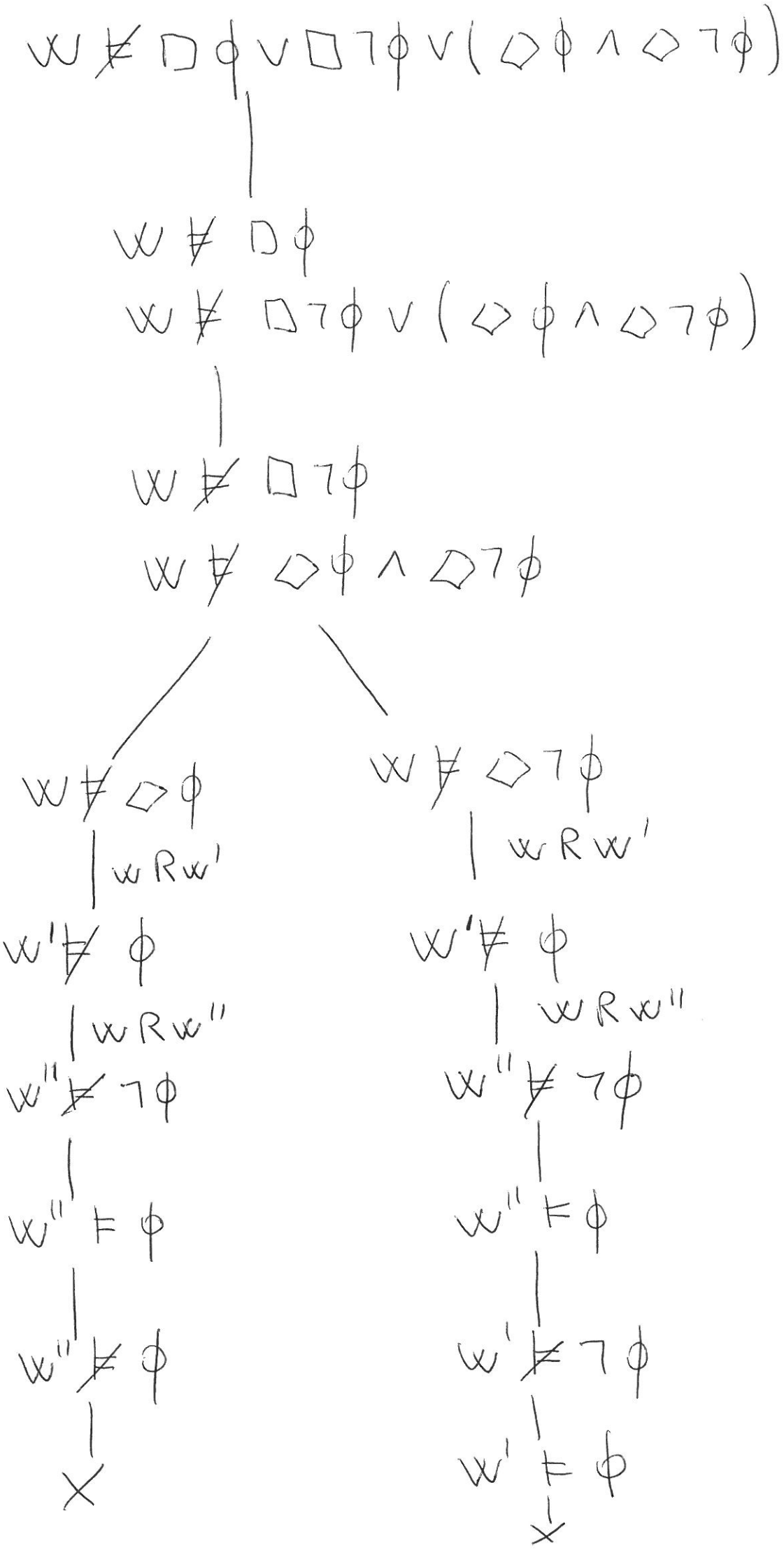
$w' \models \Box^{m-1} \bot$

$w'' \models \Box^{m-2} \bot$

$m-2$ volte

$w^m \not\models \bot$

$\times$


w ⊭ □φ ∨ □¬φ ∨ (◇φ ∧ ◇¬φ)
w ⊭ □φ
w ⊭ □¬φ ∨ (◇φ ∧ ◇¬φ)
w ⊭ □¬φ
w ⊭ ◇φ ∧ ◇¬φ
w ⊭ ◇φ
wRw'
w' ⊭ φ
wRw''
w'' ⊭ ¬φ
w'' ⊨ φ
w'' ⊭ φ
X
w ⊭ ◇¬φ
wRw'
w' ⊭ φ
wRw''
w'' ⊭ ¬φ
w'' ⊨ φ
w' ⊭ ¬φ
w' ⊨ φ
X