Reductieregels:

$\neg_L$: $\dfrac{\Phi, \neg\alpha \circ \Psi}{\Phi \circ \alpha, \Psi}$ $\neg_R$: $\dfrac{\Phi \circ \neg\alpha, \Psi}{\Phi, \alpha \circ \Psi}$

$\wedge_L$: $\dfrac{\Phi, \alpha \wedge \beta \circ \Psi}{\Phi, \alpha, \beta \circ \Psi}$ $\wedge_R$: $\dfrac{\Phi \circ \alpha \wedge \beta, \Psi}{\Phi \circ \alpha, \Psi \quad \Phi \circ \beta, \Psi}$

$\vee_L$: $\dfrac{\Phi, \alpha \vee \beta \circ \Psi}{\Phi, \alpha \circ \Psi \quad \Phi, \beta \circ \Psi}$ $\vee_R$: $\dfrac{\Phi \circ \alpha \vee \beta, \Psi}{\Phi \circ \alpha, \beta, \Psi}$

$\rightarrow_L$: $\dfrac{\Phi, \alpha \rightarrow \beta \circ \Psi}{\Phi, \beta \circ \Psi \quad \Phi \circ \alpha, \Psi}$ $\rightarrow_R$: $\dfrac{\Phi \circ \alpha \rightarrow \beta, \Psi}{\Phi, \alpha \circ \beta, \Psi}$

$\leftrightarrow_L$: $\dfrac{\Phi, \alpha \leftrightarrow \beta \circ \Psi}{\Phi, \alpha, \beta \circ \Psi \quad \Phi \circ \alpha, \beta, \Psi}$ $\leftrightarrow_R$: $\dfrac{\Phi \circ \alpha \leftrightarrow \beta, \Psi}{\Phi, \alpha \circ \beta, \Psi \quad \Phi, \beta \circ \alpha, \Psi}$

$\forall_L$: $\dfrac{\Phi, \forall x\, \varphi \circ \Psi}{\Phi, [d/x]\varphi \circ \Psi}$ voor alle $d \in D$ hier aanwezig

$\forall_R$: $\dfrac{\Phi \circ \forall x\, \varphi, \Psi}{\Phi \circ [d_{k+1}/x]\varphi, \Psi}$ voor een nieuwe d_{k+1}

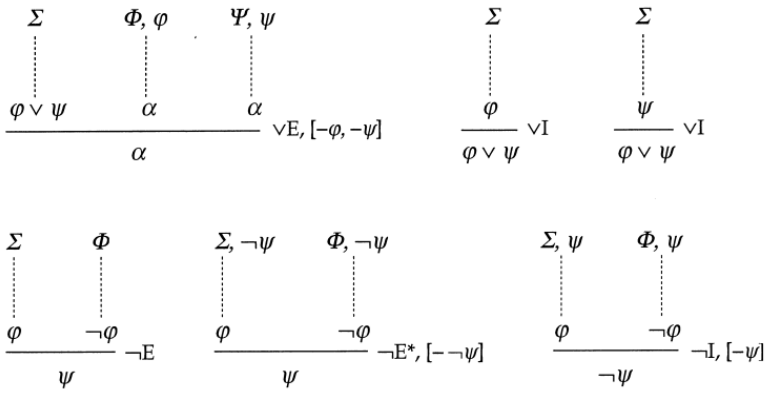
$\exists_L$: $\dfrac{\Phi, \exists x\, \varphi \circ \Psi}{\Phi, [d_{k+1}/x]\varphi \circ \Psi}$ voor een nieuwe d_{k+1} in het domein

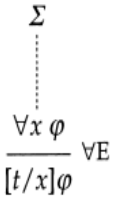
$\exists_R$: $\dfrac{\Phi \circ \exists x\, \varphi, \Psi}{\Phi \circ [d/x]\varphi, \Psi}$ voor alle $d \in D$ hier aanwezig

Afleidingsregels:

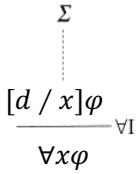
$\dfrac{\Sigma \quad \vdots \quad \varphi \wedge \psi}{\varphi}\ \wedge E$ $\dfrac{\Sigma \quad \vdots \quad \varphi \wedge \psi}{\psi}\ \wedge E$ $\dfrac{\Sigma \quad \vdots \quad \varphi \qquad \Phi \quad \vdots \quad \psi}{\varphi \wedge \psi}\ \wedge I$

$\dfrac{\Sigma \quad \vdots \quad \varphi \rightarrow \psi \qquad \Phi \quad \vdots \quad \varphi}{\psi}\ \rightarrow E$ $\dfrac{\Sigma, \varphi \quad \vdots \quad \psi}{\varphi \rightarrow \psi}\ \rightarrow I, [-\varphi]$

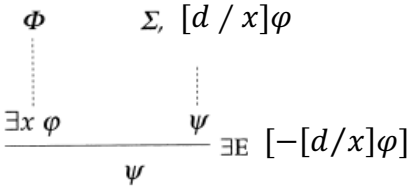




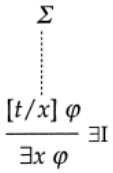
t term zonder variabelen



d een constante die niet voorkomt in Σ of in $\forall x\ \varphi$



d een constante die niet voorkomt in Σ, ψ of in $\exists x\ \varphi$



mits t vrij is voor x in φ