Summary of Natural Deduction Intro & Elim Rules

[…] denotes sub-proof

Connective	Introduction	Elimination
$\wedge$	$\dfrac{\varphi \quad \psi}{\varphi\wedge\psi}$ $(\wedge I)$	$\dfrac{\varphi\wedge\psi}{\psi}$ $(\wedge E_R)$ $\quad$ $\dfrac{\varphi\wedge\psi}{\varphi}$ $(\wedge E_L)$
$\vee$	$\dfrac{\varphi}{\varphi \vee \psi}$ $(\vee I_L)$ $\quad$ $\dfrac{\psi}{\varphi \vee \psi}$ $(\vee I_R)$	$\dfrac{\varphi \vee \psi \quad [\varphi \ldots \xi] \quad [\psi \ldots \xi]}{\xi}$ $(\vee E)$
$\rightarrow$	$\dfrac{[\varphi \ldots \psi]}{\varphi \rightarrow \psi}$ $(\rightarrow I)$	$\dfrac{\varphi \quad \varphi\rightarrow\psi}{\psi}$ $(\rightarrow E)$
$\leftrightarrow$	$\dfrac{[\varphi \ldots \psi] \quad [\psi \ldots \varphi]}{\varphi \leftrightarrow \psi}$ $(\leftrightarrow I)$	$\dfrac{\varphi \quad \varphi \leftrightarrow \psi}{\psi}$ $(\leftrightarrow E_L)$ $\quad$ $\dfrac{\psi \quad \varphi \leftrightarrow \psi}{\varphi}$ $(\leftrightarrow E_R)$
$\neg$	$\dfrac{[\varphi \ldots \bot]}{\neg\varphi}$ $(\neg I)$	$\dfrac{\varphi \quad \neg\varphi}{\bot}$ $(\neg E)$
$\bot$		$\dfrac{\bot}{\varphi}$ (Contradiction, $\bot E$)
		$\dfrac{[\neg\varphi \ldots \bot]}{\varphi}$ (RAA)