Regras de Inferência - Estilo de Gentzen

Note que $\neg x \equiv x \to \bot$

$$\frac{x}{x \wedge y} \xrightarrow{(\wedge I)} \frac{x \wedge y}{x} \xrightarrow{(\wedge E_1)} \frac{x \wedge y}{y} \xrightarrow{(\wedge E_2)}$$

$$\frac{x}{x \vee y} \xrightarrow{(\vee I_1)} \frac{y}{x \vee y} \xrightarrow{(\vee I_2)} \frac{x \vee y}{z} \xrightarrow{[x] \vdash z} \xrightarrow{[y] \vdash z} \xrightarrow{(\vee E)}$$

$$\frac{[\neg x] \vdash \bot}{x} \xrightarrow{(RAA)} \frac{x}{x} \xrightarrow{(ID)} \frac{\bot}{x} \xrightarrow{(CTR)}$$

$$\frac{x \to y}{y} \xrightarrow{(\wedge E)} \frac{[x] \vdash y}{x \to y} \xrightarrow{(\to I)}$$