

$$\frac{}{\dots \vdash \phi \vee \neg \phi} \text{ (law of excluded middle)} \quad \frac{}{\dots, \phi \vdash \phi} \text{ (assumption)}$$

$$\frac{\dots \vdash \phi \quad \dots \vdash \neg \phi}{\dots \vdash \psi} \text{ (reductio ad absurdum)}$$

$$\frac{\dots \vdash \phi \wedge \psi}{\dots \vdash \phi} \text{ (\wedge elimination)} \quad \frac{\dots \vdash \phi \wedge \psi}{\dots \vdash \psi} \text{ (\wedge elimination)} \quad \frac{\dots \vdash \phi \quad \dots \vdash \psi}{\dots \vdash \phi \wedge \psi} \text{ (\wedge introduction)}$$

$$\frac{\dots \vdash \phi_1 \vee \phi_2 \quad \dots, \phi_1 \vdash \psi \quad \dots, \phi_2 \vdash \psi}{\dots \vdash \psi} \text{ (\vee elimination)}$$

$$\frac{\dots \vdash \phi}{\dots \vdash \phi \vee \psi} \text{ (\vee introduction)} \quad \frac{\dots \vdash \psi}{\dots \vdash \phi \vee \psi} \text{ (\vee introduction)}$$

$$\frac{\dots \vdash \phi \quad \dots \vdash \phi \rightarrow \psi}{\dots \vdash \psi} \text{ (\rightarrow elimination)} \quad \frac{\dots, \phi \vdash \psi}{\dots \vdash \phi \rightarrow \psi} \text{ (\rightarrow introduction)}$$