

$$\mathbb{H}_{\infty}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K} = d \mathbb{H}_{\infty}^{\mathbb{H}} \mathbb{K}$$

$$i$$

$$\mathbb{H}_{\infty}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K}$$

$$j$$

$$\mathbb{H}_{\infty}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K} = \mathbb{H}_{\infty}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K} \sqcup \mathbb{H}_{\infty}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K}$$

$$\mathbb{H}_{\mp}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K} \ni \mathfrak{A} \text{ loc int} \Leftrightarrow \bigwedge_o \bigvee_{o \in U \subset \mathbb{H}} \bigvee \gamma \in U \triangleleft_{\mp} \mathbb{K}: \mathfrak{A} \stackrel{U}{=} d\gamma$$

$$\mathbb{H}_{\mp}^{\mathbb{H}} \triangleleft \mathbb{H}^{\mathbb{H}} \mathbb{K} \ni \mathfrak{A} \text{ int} \Leftrightarrow \bigvee \gamma \in \mathbb{H}_{\mp}^{\mathbb{H}} \triangleleft \mathbb{K}: \mathfrak{A} = d\gamma$$