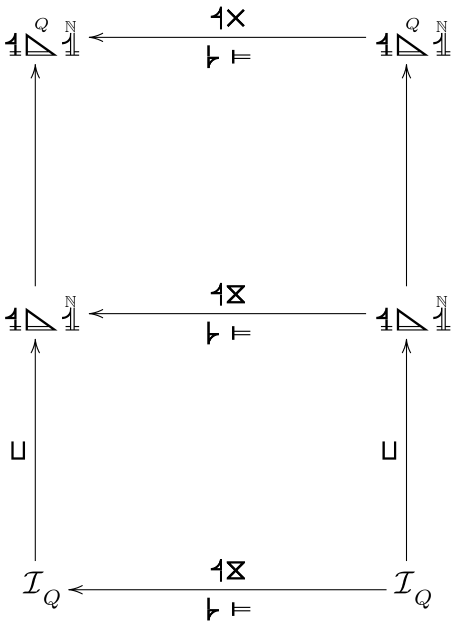
$$\mathbb{1} \text{ abel}$$

$$ꟻ \in \mathbb{1}_{\mathbb{1}}\text{mod}_{\mathbb{1}}$$

$$ꟼ \in \mathbb{1}^{\sharp} = \text{Hom}(\mathbb{1}{:}\mathbb{1})$$



$$ꟼ \vDash \mathcal{I}_Q \subset \mathcal{I}_Q$$

$$\mathcal{J} = \frac{ꟻ \in \mathcal{I}_Q}{\underbrace{ꟼ \vDash ꟻ} \in \mathcal{I}_Q}$$

$$ꟻ \in \mathcal{J} \Rightarrow ꟼ \vDash \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ} = \underbrace{ꟼꟻ}\underbrace{ꟻ}_{\in \mathcal{I}_Q} - ꟻ\blacktriangleright\!\blacktriangleleft \underbrace{ꟼ \vDash ꟻ}_{\in \mathcal{I}_Q} \in \mathcal{I}_Q \Rightarrow \mathbb{1}\triangle\mathbb{1}^{\mathbb{N}}\mathcal{J} = \mathcal{J} \text{ left ideal}$$

$$ꟼ \vDash \overbrace{ꟻ\blacktriangleright\!\blacktriangleleft \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ}} = \underbrace{ꟼꟻ}\underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ} - ꟻ\blacktriangleright\!\blacktriangleleft \overbrace{ꟼ \vDash \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ}}$$

$$= \underbrace{ꟼꟻ}\underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ} + ꟻ\blacktriangleright\!\blacktriangleleft ꟻ\blacktriangleright\!\blacktriangleleft \underbrace{ꟼ \vDash ꟻ} - ꟻ\blacktriangleright\!\blacktriangleleft \underbrace{ꟼꟻ}\blacktriangleright\!\blacktriangleleft ꟻ = ꟻ\blacktriangleright\!\blacktriangleleft ꟻ\blacktriangleright\!\blacktriangleleft \underbrace{ꟼ \vDash ꟻ}$$

$$\Rightarrow ꟼ \vDash \overbrace{\underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ - ꟻQꟻ}\blacktriangleright\!\blacktriangleleft ꟻ} = \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ - ꟻQꟻ}_{\in \mathcal{I}_Q}\blacktriangleright\!\blacktriangleleft \underbrace{ꟼ \vDash ꟻ} \in \mathcal{I}_Q$$

$$\Rightarrow \mathcal{I}_Q \ni \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ - ꟻQꟻ}_{\in \mathcal{I}_Q}\blacktriangleright\!\blacktriangleleft ꟻ \in \mathcal{J} \Rightarrow \underbrace{ꟻ\blacktriangleright\!\blacktriangleleft ꟻ - ꟻQꟻ}\,\mathbb{1}\triangle\mathbb{1}^{\mathbb{N}} \subset \mathcal{J} \Rightarrow \mathcal{J} = \mathcal{I}_Q$$