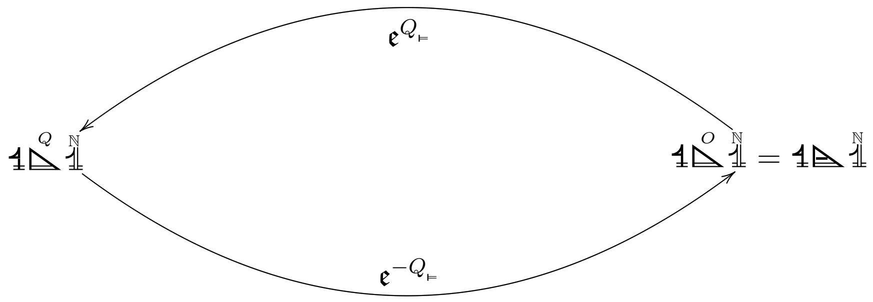

$$\mathbb{1} \in \mathbb{1}_{\mathbb{1}}\mathrm{mod}_{\mathbb{1}}$$

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

$$\mathfrak{e}^{R\vDash}\mathcal{I}_Q \subset \mathcal{I}_{Q+R}$$

$$\mathcal{J} = \frac{\dashv \in \mathcal{I}_Q}{\mathfrak{e}^{R\vDash}\dashv \in \mathcal{I}_{Q+R}}$$

$$\dashv \in \mathcal{J} \Longrightarrow \mathfrak{e}^{R\vDash}\underbrace{\dashv⧗\dashv} = \dashv⧗\underbrace{\mathfrak{e}^{R\vDash}\dashv}_{\in \mathcal{I}_{Q+R}} - \underbrace{\dashv R} \vDash \overbrace{\mathfrak{e}^{R\vDash}\dashv}^{\in \mathcal{I}_{Q+R}} \in \mathcal{I}_{Q+R}$$

$$\Longrightarrow \mathcal{J} = \dashv\triangle\mathbb{1}^{\mathbb{N}}\mathcal{J} \text{ left ideal}$$

$$\mathfrak{e}^{R\vDash}\overbrace{\dashv⧗\underbrace{\dashv⧗\dashv}} = \dashv⧗\overbrace{\mathfrak{e}^{R\vDash}\underbrace{\dashv⧗\dashv}} - \overbrace{\dashv R} \vDash \overbrace{\mathfrak{e}^{R\vDash}\underbrace{\dashv⧗\dashv}}$$

$$= \dashv⧗\dashv⧗\overbrace{\mathfrak{e}^{R\vDash}\dashv} - \dashv⧗\underbrace{\overbrace{\dashv R} \vDash \overbrace{\mathfrak{e}^{R\vDash}\dashv}} - \overbrace{\dashv R} \vDash \underbrace{\dashv⧗\overbrace{\mathfrak{e}^{R\vDash}\dashv}} + \overbrace{\underbrace{\overbrace{\dashv R} \vDash}\underbrace{\overbrace{\dashv R} \vDash}}^{=0}\overbrace{\mathfrak{e}^{R\vDash}\dashv} = \underbrace{\dashv⧗\dashv - \dashv R\dashv}⧗\overbrace{\mathfrak{e}^{R\vDash}\dashv}$$

$$\Longrightarrow \mathfrak{e}^{R\vDash}\overbrace{\underbrace{\dashv⧗\dashv - \dashv Q\dashv}⧗\dashv} = \overbrace{\dashv⧗\dashv - \dashv\underbrace{Q+R}\dashv}\overbrace{\mathfrak{e}^{R\vDash}\dashv} \in \mathcal{I}_{Q+R}$$

$$\Longrightarrow \mathcal{I}_Q \ni \underbrace{\dashv⧗\dashv - \dashv Q\dashv}⧗\dashv \in \mathcal{J} \Longrightarrow \underbrace{\dashv⧗\dashv - \dashv Q\dashv}\dashv\triangle\mathbb{1}^{\mathbb{N}} \subset \mathcal{J} \Longrightarrow \mathcal{J} = \mathcal{I}_Q$$