

$$\underbrace{\downarrow \times}_{g}^{\bar{G}} = \downarrow \underline{R}_g$$

$$\underbrace{\downarrow \times}_{og}^{\bar{h}} = \downarrow \underline{R}_g \overset{g}{\pi} = \underbrace{\downarrow \times}_{g}^{\bar{G}} \overset{g}{\pi}$$

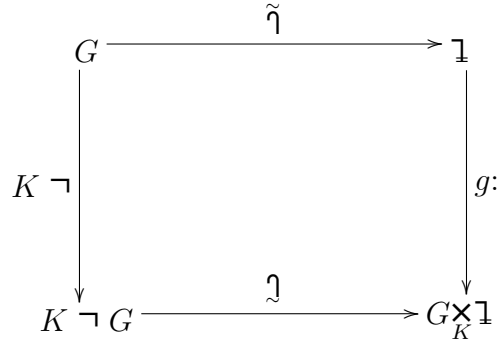
$$\overline{\underbrace{\downarrow \times}_{og}^{\bar{h}} \nabla \gamma} = \bar{\downarrow} \overset{e}{R}_g \times \tilde{\gamma}$$

$$\downarrow \in \bar{G} \Rightarrow \overline{\underbrace{\downarrow \times}_{og}^{\bar{h}} \nabla \gamma} = \downarrow \overset{e}{R}_g \times \tilde{\gamma}$$

$$\text{LHS} = \overline{\downarrow \underline{R}_g \overset{g}{\pi} \nabla \gamma} = \downarrow \underline{R}_g \overset{g}{\tilde{\gamma}} - \overline{\downarrow \times \tilde{\gamma}}^g = \downarrow \underline{R}_g \times \tilde{\gamma} - \downarrow \overset{e}{R}_g \times \tilde{\gamma} = \underbrace{\downarrow - \downarrow}^{\dagger} \overset{e}{R}_g \times \tilde{\gamma} = \text{RHS}$$

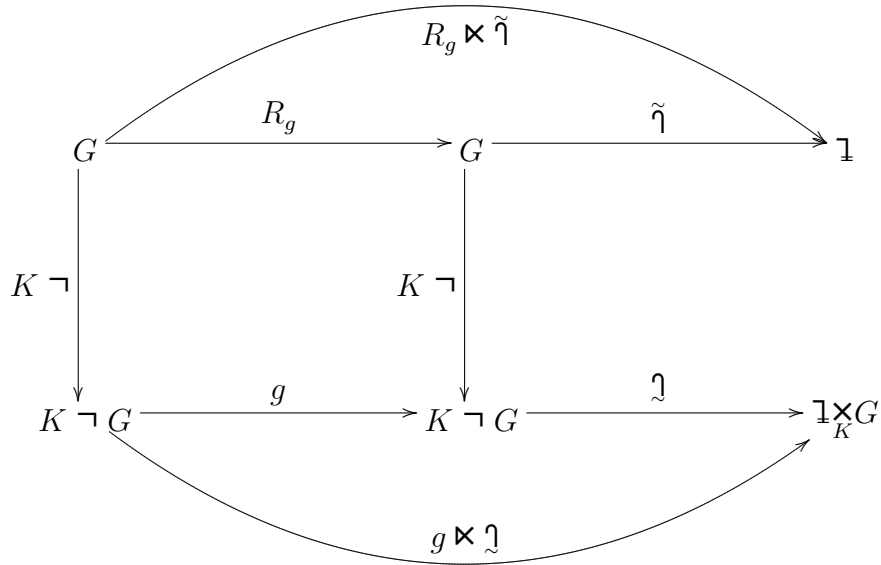
$$G \times_K \mathbb{1} = \begin{cases} g: \mathbb{1} \sim kg: k \times \mathbb{1} \\ g \in G: \mathbb{1} \in \mathbb{1} \end{cases}$$

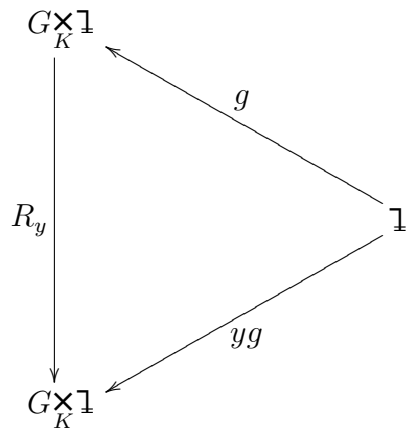
$$g: \mathbb{1} \in G \times_K \mathbb{1} \xleftarrow{g} \mathbb{1} \ni \mathbb{1}$$



$$\mathbb{1} \cong \begin{cases} \gamma_x \tilde{\eta} = \frac{x}{1/2} B_x \gamma \\ g \tilde{\eta} = \underline{o}g \gamma \end{cases} \Rightarrow {}^{kg} \tilde{\eta} = \underline{o}k \underline{g} \text{ } {}^{okg} \gamma = \underline{o}k \underline{ok} \underline{g} \text{ } {}^{og} \gamma = \underline{o}k \underline{og} \gamma = \underline{o}k \text{ } {}^g \tilde{\eta}$$

$$\mathbb{1} \times (og) \cong \begin{cases} {}^{og} \underline{\eta} = {}^g \tilde{\eta} : g = \underline{o}g \text{ } {}^{og} \gamma : g \\ {}^x \underline{\eta} = \gamma_x \tilde{\eta} : \gamma_x = \frac{x}{1/2} B_x \gamma : \gamma_x \end{cases}$$





$$R_y (g: \top) = gy: \top$$

$$g: \top \sim kg: k\top \Rightarrow gy: \top \sim kgy: k\top$$