

$$\mathbb{K} \supset \mathfrak{h} \xrightarrow[\text{diff at } o]{\gamma} \mathbb{K} \Leftrightarrow \begin{cases} \frac{{}^x\gamma - {}^o\gamma}{x - o} & x \neq o \\ {}^o\gamma & x = o \end{cases} \text{ stet in } o$$

$$\mathbb{K} \supset \mathfrak{h} \xrightarrow[\text{diff at } o]{\gamma} \mathbb{K} \stackrel{\text{Folg}}{\Leftrightarrow} \bigwedge_{o \neq n\lambda \rightsquigarrow o} \frac{{}^{n\lambda}\gamma - {}^o\gamma}{n\lambda - o} \rightsquigarrow {}^o\gamma \in \mathbb{K}$$

$$\begin{cases} {}^x\gamma - {}^o\gamma = (x - o) {}^x\gamma \\ {}^o\gamma \text{ stet on } o \end{cases} \Rightarrow {}^o\gamma = {}^o\gamma$$

$$\mathbb{K} \supset \mathfrak{h} \xrightarrow[\text{diff at } o]{\gamma} \mathbb{K} \Rightarrow \gamma \text{ stet at } o$$

$${}^{n\lambda}\gamma - {}^o\gamma = \frac{{}^{n\lambda}\gamma - {}^o\gamma}{n\lambda - o} \rightsquigarrow 0 {}^o\gamma = 0$$

$$\mathbb{K} \supset \mathfrak{h} \xrightarrow[\text{diff at } o]{\gamma} \mathbb{K} \Rightarrow \begin{cases} \gamma a + \acute{\gamma} a \text{ diff at } o \\ {}^o\gamma a + \acute{\gamma} a = {}^o\gamma a + {}^o\acute{\gamma} a \end{cases}$$

$$\frac{{}^{n\lambda}\gamma a + {}^{n\lambda}\acute{\gamma} a - {}^o\gamma a - {}^o\acute{\gamma} a}{n\lambda - o} = \frac{{}^{n\lambda}\gamma - {}^o\gamma}{n\lambda - o} a + \frac{{}^{n\lambda}\acute{\gamma} - {}^o\acute{\gamma}}{n\lambda - o} a \rightsquigarrow {}^o\gamma a + {}^o\acute{\gamma} a$$

$$\mathbb{K} \supset \mathfrak{h} \xrightarrow[\text{diff at } o]{\dot{\gamma}} \mathbb{K} \Rightarrow \begin{cases} \gamma \times \acute{\gamma} \text{ diff at } o \\ {}^o\gamma \times \acute{\gamma} = {}^o\gamma \times {}^o\acute{\gamma} + {}^o\gamma \times {}^o\acute{\gamma} \end{cases}$$

$$\frac{{}^{n\lambda}\gamma \times {}^{n\lambda}\acute{\gamma} - {}^o\gamma \times {}^o\acute{\gamma}}{n\lambda - o} = \frac{{}^{n\lambda}\gamma - {}^o\gamma}{n\lambda - o} \times {}^{n\lambda}\acute{\gamma} + {}^o\gamma \times \frac{{}^{n\lambda}\acute{\gamma} - {}^o\acute{\gamma}}{n\lambda - o} \rightsquigarrow {}^o\gamma \times {}^o\acute{\gamma} + {}^o\gamma \times {}^o\acute{\gamma}$$

$$\begin{aligned}
 {}^h\mathbb{1} &:= {}^h a \eta \\
 a \in \mathbb{K} &\Rightarrow {}^h \underline{\mathbb{1}} = a {}^h \underline{\eta}
 \end{aligned}$$

$$\frac{{}^{h+z}\mathbb{1} - {}^h\mathbb{1}}{z} = \frac{{}^{\underline{h+z}a}\eta - {}^h a \eta}{z} = a \frac{{}^{h+za}\eta - {}^h a \eta}{za} \rightsquigarrow a {}^h \underline{\eta}$$

$${}^h\mathbb{1} := {}^{h+a}\eta \Rightarrow {}^h \underline{\mathbb{1}} = {}^{h+a} \underline{\eta}$$

$$\frac{{}^{h+z}\mathbb{1} - {}^h\mathbb{1}}{z} = \frac{{}^{\underline{h+z}+a}\eta - {}^{h+a}\eta}{z} = \frac{{}^{\underline{h+a}+z}\eta - {}^{h+a}\eta}{z} \rightsquigarrow {}^{h+a} \underline{\eta}$$