

$$\begin{array}{ccccc}
 2^n\mathbb{K} & \xrightarrow{\mathfrak{X}} & \mathfrak{G}|_{2^n\mathbb{K}} & \xleftarrow{\models} & \mathbb{K}^{2^n} \\
 \downarrow \mathfrak{L}^\bullet & & \downarrow Ad\mathfrak{L}^\bullet & & \downarrow .\mathfrak{L} \\
 \mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array} & \xrightarrow{\mathfrak{X}} & \mathfrak{G}|_{\mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}} & \xleftarrow{\models} & \mathbb{K}_{\mathbb{N}} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}
 \end{array}$$

$$\begin{array}{ccccc}
 2^n\mathbb{K} & \xrightarrow{\mathfrak{X}} & \mathfrak{U}|_{2^n\mathbb{K}} & \xleftarrow{\models} & \mathbb{K}^{2^n} \\
 \downarrow \mathfrak{L}^\bullet & & \downarrow Ad\mathfrak{L}^\bullet & & \downarrow .\mathfrak{L} \\
 \mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array} & \xrightarrow{\mathfrak{X}} & \mathfrak{U}|_{\mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}} & \xleftarrow{\models} & \mathbb{K}_{\mathbb{N}} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}
 \end{array}$$

$${}_P\mathfrak{L}^\bullet \models \mathfrak{L}^M = \begin{cases} 0 & P \not\subseteq M \\ \mathfrak{L}^{M \perp P} & P \subset M \end{cases}$$

$${}_{M \perp P}\mathfrak{L}^\bullet \underbrace{{}_P\mathfrak{L}^\bullet \models \mathfrak{L}^M}_{=1} = \begin{bmatrix} {}_P\mathfrak{L}^\bullet \\ {}_{M \perp P}\mathfrak{L}^\bullet \end{bmatrix} \mathfrak{L}^M = \underbrace{{}_M\mathfrak{L}^\bullet \mathfrak{L}^M}_{=1} = {}_{M \perp P}\mathfrak{L}^\bullet \mathfrak{L}^{M \perp P}$$

$$\begin{array}{ccccc}
 2^n\mathbb{K} & \xrightarrow{\mathfrak{X}} & \mathfrak{G}|_{2^n\mathbb{K}} & \xleftarrow{\models} & \mathbb{K}^{2^n} \\
 \downarrow \mathfrak{L}^\bullet & & \downarrow Ad\mathfrak{L}^\bullet & & \downarrow .\mathfrak{L} \\
 \mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array} & \xrightarrow{\mathfrak{X}} & \mathfrak{G}|_{\mathfrak{L} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}} & \xleftarrow{\models} & \mathbb{K}_{\mathbb{N}} \begin{array}{c} \mathbb{N} \\ \triangle \\ \mathbb{K} \end{array}
 \end{array}$$

$$\begin{array}{ccccc}
 2^n\mathbb{K} & \xrightarrow{\mathfrak{X}} & \mathfrak{U}|_{2^n\mathbb{K}} & \xleftarrow{\models} & \mathbb{K}^{2^n} \\
 \downarrow \mathfrak{L}^\bullet & & \downarrow Ad\mathfrak{L}^\bullet & & \downarrow \cdot\mathfrak{L} \\
 \mathfrak{L} \begin{smallmatrix} \mathbb{N} \\ \triangleleft \end{smallmatrix} \mathbb{K} & \xrightarrow{\mathfrak{X}} & \mathfrak{U}| \begin{smallmatrix} \mathfrak{L} \\ \triangleleft \end{smallmatrix} \mathbb{K} & \xleftarrow{\models} & \mathbb{K} \begin{smallmatrix} \mathbb{N} \\ \triangleleft \end{smallmatrix} \mathfrak{L}
 \end{array}$$

$${}_P\mathfrak{L}^\cdot\models\cdot\mathfrak{L}^M=\begin{cases}0&P\not\sqsubset M\\ \overline{P>M\lhd P} \overline{(-1)}\cdot\mathfrak{L}^{M\lhd P}&P\sqsubset M\end{cases}$$

$${}_{M\lhd P}\mathfrak{L}^\cdot\,\underbrace{{}_P\mathfrak{L}^\cdot\models\cdot\mathfrak{L}^M}_{=1}=\begin{bmatrix}{}_P\mathfrak{L}^\cdot\\ {}_{M\lhd P}\mathfrak{L}^\cdot\end{bmatrix}\cdot\mathfrak{L}^M=\overline{P>M\lhd P}\overline{(-1)}\underbrace{{}_M\mathfrak{L}^\cdot\cdot\mathfrak{L}^M}_{=1}=\overline{P>M\lhd P}\overline{(-1)}\,{}_{M\lhd P}\mathfrak{L}^\cdot\cdot\mathfrak{L}^{M\lhd P}$$