

$$\begin{array}{ccc}
H \times_{\nu} N \overset{\pm}{=} N & \cong & \sigma \\
\downarrow \nu & & \downarrow \\
H \overset{\pm}{\times} N & \cong & \nu \times \sigma \Big|_{H \times_{\nu} N}^{H \times N} \\
\downarrow & & \downarrow \\
H \times N \neg \overset{\pm}{N} & \cong & \nu
\end{array}$$

$$H \overset{\pm}{\times} N = \bigcup_{\nu \in H \times N \neg \overset{\pm}{N}} H \times_{\nu} N \overset{\pm}{=} N$$

$$g \times \nu \in \overset{\pm}{N} \xleftarrow{\times} \underline{H \times H} \times \overset{\pm}{N} \cong g : \nu$$

$$n^{g \times \nu} = \overline{\overset{-1}{g} n g}^{\nu}$$

$$g \times \underline{\overset{\pm}{g} \times n} = \underline{g \overset{\pm}{g}} \times \nu$$

$$n^{g \times \underline{\overset{\pm}{g} \times \nu}} = \overline{\overset{-1}{g} n g}^{\overset{\pm}{g} \times \nu} = \overline{\overset{-1}{g} \overline{\overset{-1}{g} n g} \overset{\pm}{g}}^{\nu} = \overline{\overset{-1}{g \overset{\pm}{g} n g \overset{\pm}{g}}}^{\nu} = n^{\overline{\overset{\pm}{g}}} \times \nu$$

$$N \triangleleft_{\text{ex}} H \times_{\nu} N = \frac{g \in H \times N}{g \times \nu * \nu \in \overset{\pm}{N}} \triangleleft H \times N$$

$$n^{m \times \nu} = \overline{\overset{-1}{m} n m}^{\nu} = m^{-\nu} n^{\nu} m^{\nu} * n^{\nu}$$

