$$\P \in {}^{Z}\underset{\bullet}{\triangleright}\mathbb{C}$$

$${}^{z}\P = \sum_{\mu} {}^{z}E^{\mu}_{\partial} \overset{0}{|} \P$$

$$p \mathbin{\overline{\bowtie}} q = p_{\partial} \overset{0}{|} q = {}^{z}p_{\partial} \overset{0}{|} {}^{z}q$$

$${}^{z}\P = \int_{dw/\pi^{d}}^{Z} {}^{w}\mathcal{E}_{w}^{-1}\, {}^{z}e_{w}\, {}^{w}\P = \sum_{\mu} \int_{dw/\pi^{d}}^{Z} {}^{w}\mathcal{E}_{w}^{-1}\, {}^{z}E^{\mu}_{w}\, {}^{w}\P = \sum_{\mu} \int_{dw/\pi^{d}}^{Z} {}^{w}\mathcal{E}_{w}^{-1}\, {}^{w}\bar{E}^{\mu}_{z}\, {}^{w}\P = \sum_{\mu} E^{\mu}_{z} \mathbin{\overline{\bowtie}} \P = \sum_{\mu} {}^{z}E^{\mu}_{\partial} \overset{0}{|} \P$$

$$\text{Taylor} \quad {}^{o+z}\P = \sum_{\mu} {}^{z}E^{\mu}_{\partial} \overset{o}{|} \P$$

$${}^{o+z}\P = {}^{z}\overbrace{t_{o} \ltimes \P} = \sum_{\mu} {}^{z}E^{\mu}_{\partial} \overset{0}{|} \underbrace{t_{o} \ltimes \P} = \sum_{\mu} {}^{0}\overbrace{{}^{z}E^{\mu}_{\partial} \underbrace{t_{o} \ltimes \P}} \underset{\text{cst coeff}}{=} \sum_{\mu} {}^{0}\overbrace{t_{o} \ltimes \underbrace{{}^{z}E^{\mu}_{\partial}\P}} = \sum_{\mu} {}^{o}\overbrace{{}^{z}E^{\mu}_{\partial}\P} = \sum_{\mu} {}^{z}E^{\mu}_{\partial} \overset{o}{|} \P$$

$${}^{wg}\P = {}^{\underbrace{wg-zg}+zg}\P = \sum_{\mu} {}^{wg-zg}E^{\mu}_{\partial} \overset{zg}{|} \P$$

$$\P \in U\underset{\nu}{\rfloor} \sqsubset {}^{Z}\underset{\bullet}{\triangleright}C$$

$${}^{\zeta}_{T}G^{\nu}_{-\omega} = \overset{\nu}{\det}\left(1 + \zeta \overset{*}{\omega}\right)$$

$${}^{\zeta}\overbrace{\begin{array}{c|c} \alpha & \beta \\ \hline \gamma & \delta \end{array} \ltimes \P} = \overset{\nu}{\det}\left(\alpha + \zeta\gamma\right)^{\overbrace{\alpha+\zeta\gamma}^{-1}\underbrace{\beta+\zeta\delta}}\P$$

$$\begin{array}{c|c}\alpha&\beta\\\hline\gamma&\delta\end{array} \ltimes {}_{T}G_{-\omega} = {}_{T}G_{-\omega\begin{array}{c|c}\overset{*}{\alpha}&\overset{*}{\gamma}\\\hline\overset{*}{\beta}&\overset{*}{\delta}\end{array}}\ \overset{\nu}{\det}\left(\alpha+\omega\overset{*}{\omega}\right)$$

$${}^{\zeta}\overbrace{\begin{array}{c|c}\alpha&\beta\\\hline\gamma&\delta\end{array} \ltimes {}_{T}G_{-\omega}} = \overset{\nu}{\det}\left(\alpha+\zeta\gamma\right)\ {}^{\overbrace{\alpha+\zeta\gamma}^{-1}\underbrace{\beta+\zeta\delta}}_{T}G_{-\omega} = \overset{\nu}{\det}\left(\alpha+\zeta\gamma\right)\ \overset{\nu}{\det}\left(1+\overbrace{\alpha+\zeta\gamma}^{-1}\underbrace{\beta+\zeta\delta}\overset{*}{\omega}\right) = \overset{\nu}{\det}\left(\alpha+\zeta\gamma+\beta\right.$$

$$= \overset{\nu}{\det}\left(1+\zeta\overbrace{\underbrace{\overset{*}{\alpha}+\omega\overset{*}{\beta}}_{-1}\underbrace{\overset{*}{\gamma}+\omega\overset{*}{\delta}}}^{*}\right)\overset{\nu}{\det}\left(\alpha+\omega\overset{*}{\omega}\right) = {}^{\zeta}_{T}G_{-\overbrace{\overset{*}{\alpha}+\omega\overset{*}{\beta}}^{-1}\underbrace{\overset{*}{\gamma}+\omega\overset{*}{\delta}}}\ \overset{\nu}{\det}\left(\alpha+\omega\overset{*}{\omega}\right) = {}^{\zeta}_{T}G_{-\omega\begin{array}{c|c}\overset{*}{\alpha}&\overset{*}{\gamma}\\\hline\overset{*}{\beta}&\overset{*}{\delta}\end{array}}\ \overset{\nu}{\det}\left(\alpha+\omega\overset{*}{\omega}\right)$$

$${}^{\zeta}\overbrace{\begin{array}{c|c}\alpha&\beta\\\hline\gamma&\delta\end{array} \ltimes \P} = {}^{1|\zeta}\overbrace{\begin{array}{c|c}\alpha&\beta\\\hline\gamma&\delta\end{array} \ltimes \tilde{\P}} = {}^{1|\zeta\rtimes\begin{array}{c|c}\alpha&\beta\\\hline\gamma&\delta\end{array}}\tilde{\P}$$

$$= {}^{\alpha+\zeta\gamma|\beta+\zeta\delta}\tilde{\P} = \overbrace{\alpha+\zeta\delta}^{\nu}\ {}^{\overbrace{\alpha+\zeta\gamma}^{-1}\underbrace{\beta+\zeta\delta}}\P = {}^{\zeta}\underline{\gamma}^{-\nu/2}\ {}^{\zeta\gamma}\P$$

$${}^{\zeta}\overbrace{{}^{z}_{U}g_{\nu}\ltimes\P} = {}^{\zeta+z}\underline{g}^{\nu}\ {}^{\underbrace{\zeta+z}g-zg}\P$$

$${}^{z}_{U}g_{\nu}\ {}^{zg}_{U}\acute{g}_{\nu} = {}^{z}_{U}(g\acute{g})_{\nu}$$

$${}^{w}p_{\partial}\overset{z}{\rceil}\ {}^{w}\underline{g}^{\lambda}\ {}^{wg}\P = \sum_{\mu}p\bigstar\overbrace{{}^{z}_{U}g\ltimes\underbrace{E^{\mu\,zg}_{\partial}\rceil\P}}$$

$${}^{w}p_{\partial}\overset{z}{\rceil}\ {}^{w}\underline{g}^{\lambda}\ {}^{wg}\P = \sum_{\mu}{}^{w}p_{\partial}\overset{z}{\rceil}\ {}^{w}\underline{g}^{\lambda}\ {}^{wg-zg}E^{\mu}_{\partial}\overset{zg}{\rceil}\P \underset{w=\zeta+z}{=} \sum_{\mu}{}^{\zeta}p_{\partial}\overset{0}{\rceil}\ {}^{\zeta+z}\underline{g}^{\lambda}\ {}^{\underbrace{\zeta+z}g-zg}E^{\mu}_{\partial}\overset{zg}{\rceil}\P$$

$$= \sum_{\mu}{}^{\zeta}p_{\partial}\overset{0}{\rceil}\ {}^{\zeta}\overbrace{{}^{z}_{U}g_{\lambda}\ltimes E^{\mu\,zg}_{\partial}\rceil\P} = \sum_{\mu}p\bigstar\overbrace{{}^{z}_{U}g_{\lambda}\ltimes\underbrace{E^{\mu\,zg}_{\partial}\rceil\P}}$$

$$K \ltimes U\big|_{\nu} = \sum_{\mu \prec \nu} {}^{Z}\underset{\bullet}{\triangle}\overset{\mu}{\mathbb{C}}$$

$$U\big|_{\nu} \ni {}^{\zeta}\Delta^{\nu}_{-\omega} = \sum_{\mu \prec \nu} (-\nu)_{\mu}\, {}^{\zeta}E^{\mu}_{-\omega} = \sum_{\mu \prec \nu} (-\nu)_{\mu} \overset{\mu}{-1} \underbrace{{}^{\zeta}E^{\mu}_{\omega}}_{\in {}^{Z}\underset{\bullet}{\triangle}\overset{\mu}{\mathbb{C}}}$$

$${}^{D}\underset{\omega}{\triangle} U\big|_{\nu} = \sum_{\mu \prec \nu} \underbrace{{}^{D}\underset{\omega}{\triangle}\, {}^{Z}\underset{\bullet}{\triangle}\overset{\mu}{\mathbb{C}}}_{= G|_{\mu}}$$

$${}^{z}_{T}G^{\mu}_{-w} = {}^{z}B^{\mu}_{w}$$

$${}^{z}_{U}g = \begin{array}{c|c} {}^{z}\underset{-}{g}^{-1}_{\ell} & 0 \\ \hline c & {}^{z}\underset{-}{g}_{r} \end{array}$$

$${}^{z}_{U}g = \begin{array}{c|c} 1 & z \\ \hline 0 & 1 \end{array} \begin{array}{c|c} a & b \\ \hline c & d \end{array} \begin{array}{c|c} 1 & -\overbrace{a+zc}^{-1}\underbrace{b+zd} \\ \hline 0 & 1 \end{array} = \begin{array}{c|c} a+zc & b+zd \\ \hline c & d \end{array} \begin{array}{c|c} 1 & -\overbrace{a+zc}^{-1}\underbrace{b+zd} \\ \hline 0 & 1 \end{array} = \begin{array}{c|c} a+zc & 0 \\ \hline c & d-c\overbrace{a+zc}^{-1}\underbrace{b+zd} \end{array}$$

$$\dot{z}\, {}^{z}\underset{-}{g} = -\overbrace{a+zc}^{-1}\, \dot{z}\, c\, \overbrace{a+zc}^{-1}\, \underbrace{b+zd} + \overbrace{a+zc}^{-1}\, \dot{z}\, d = \overbrace{a+zc}^{-1}\, \dot{z} \left(d-c\overbrace{a+zc}^{-1}\underbrace{b+zd} \right)$$