$$ {}^{\hbar}\triangle_{0}\, {}^{\hbar}_{-}\triangle\mathbb{K} \ni \P = dx^j{}_j\P \text{ int} \iff \begin{cases} \bigvee \rceil \in {}^{\hbar}\triangle_{1+0}\mathbb{K} \\ \P = d\rceil \end{cases} $$

$$ \Leftarrow: \quad 0{:}I{:}1 \xrightarrow[\text{stet}]{\gamma:\eta} o{:}\hbar{:}x \Rightarrow \partial(\eta\ominus\gamma) = \partial\eta\ominus\partial\gamma = (x-o)-(x-o)=0 \Rightarrow \int^{\eta}\P - \int^{\gamma}\P = \int^{\eta\ominus\gamma}\P = 0 $$

$$ \Rightarrow: \quad {}^{x}\rceil = \int^{o|x}\P \text{ well-def} $$

$$ \rceil \in {}^{\hbar}\triangle_{1+0}\mathbb{K}: \quad \partial_i\rceil = {}_i\P $$

$$ \bigwedge_{c}^{\hbar}\bigvee_{C\subset\hbar}^{\text{rund}} c\in C \Rightarrow \bigwedge_{x}^{C} o|x\ominus o|c = c|x \Rightarrow $$

$$ \overline{{}^{x}\rceil - {}^{c}\rceil - \left[x^1-c^1 \quad \cdots \quad x^n-c^n\right]\begin{bmatrix} {}^{c}_{1}\P \\ + \\ {}^{c}_{n}\P \end{bmatrix}} = \overline{{}^{x}\rceil - {}^{c}\rceil - \left(x^j-c^j\right){}^{c}_{j}\P} = \overline{\int^{o|x}\P - \int^{o|c}\P - {}^{c}_{j}\P\int^{c|x}dx^j} $$

$$ = \overline{\int^{c|x}\P - \int^{c|x}dx^j{}^{c}_{j}\P} = \overline{\int^{c|x}dx^j{}_j\P - \int^{c|x}dx^j{}^{c}_{j}\P} = \overline{\int^{c|x}dx^j\left({}_j\P - {}^{c}_{j}\P\right)} \leqslant \overline{x-c}\sum_j {}^{c|x}\overline{{}_j\P - {}^{c}_{j}\P}^{\bullet} \rightsquigarrow 0 $$

$$ d\rceil = \P \text{ stet} \Rightarrow \rceil \in {}^{\hbar}\triangle_{1+0}\mathbb{K} $$

$$\text{ꟼ} \in {}^{\text{ħ}}\!\!\blacktriangleright_{0}\, \underline{\text{ħ}}^{*} \text{ loc int}$$

$$\text{ɩ} \in {}^{H}\!\!\triangleright_{0}\, \text{ħ}$$

$$\begin{cases} H = \bigcup\limits_{k}^{K} H^{k} & \bigwedge\limits_{k}^{K} {}^{H^{k}}\text{ɩ} \subset \underset{\text{rund}}{\text{ħ}^{k}} \subsetneq \text{ħ} \\ \text{ꟼ} \underset{\text{ħ}^{k}}{=} d\text{ʅ}_{k} & \bigvee \text{ʅ}_{k} \in {}^{\text{ħ}^{k}}\!\!\triangleright_{1+0} \mathbb{K} \end{cases} \Longrightarrow \int^{\text{ɩ}} \text{ꟼ} = \sum_{k}^{K} \text{ɩ}\, \text{ʅ}_{k} |\partial H^{k} \text{ well-def}$$

$$\left\{ \begin{matrix} H^{\dot{k}} \text{ħ}^{\dot{k}} : \text{ʅ}_{\dot{k}} \\ \dot{k} \in \dot{K} \end{matrix} \right\} \Longrightarrow \bigwedge_{\dot{k} \in \dot{K}} d \left(\text{ʅ}_{k} - \acute{\text{ʅ}}_{\acute{k}} \right) = \text{ꟼ} - \text{ꟼ} \underset{\text{ħ}^{k} \cap \acute{\text{ħ}}^{\acute{k}} \supset H^{k} \cap \acute{H}^{\acute{k}} \text{ɩ}}{=} 0$$

$$\Longrightarrow {}^{\text{ħ}^{k} \cap \acute{\text{ħ}}^{\acute{k}}} \left(\text{ʅ}_{k} - \acute{\text{ʅ}}_{\acute{k}} \right) = c_{k:\acute{k}} \text{ cst } \Longrightarrow \text{ɩ} \left(\text{ʅ}_{k} - \acute{\text{ʅ}}_{\acute{k}} \right) |\partial \left(H^{k} \cap \acute{H}^{\acute{k}} \right) = 0$$

$$\Longrightarrow \sum_{k}^{K} \text{ɩ}\, \text{ʅ}_{k} |\partial H^{k} = \sum_{k}^{K} \sum_{\acute{k}}^{\acute{K}} \text{ɩ}\, \text{ʅ}_{k} |\partial \left(H^{k} \cap \acute{H}^{\acute{k}} \right) = \sum_{k}^{K} \sum_{\acute{k}}^{\acute{K}} \text{ɩ}\, \acute{\text{ʅ}}_{\acute{k}} |\partial \left(H^{k} \cap \acute{H}^{\acute{k}} \right) = \sum_{\acute{k}}^{\acute{K}} \acute{\text{ʅ}}_{\acute{k}} |\partial \acute{H}^{\acute{k}}$$

$$\P \in {}^{\hbar}\blacktriangle_{0}\, \underline{\hbar}^{*} \text{ loc int}$$

$$\mathbb{S} \triangle_{0} \hbar \ni {}_{0}\iota$$

$${}_{1}\iota \in {}^{0:H:1}\triangle_{0}\, a{:}\hbar{:}b$$

$${}_{0}\iota \underset{\text{htp}}{\sim} {}_{1}\iota \Longrightarrow \int^{{}_{0}\iota} \P = \int^{{}_{1}\iota} \P$$

$$H \times H \ni (s{:}t) \xrightarrow[\text{stet}]{\Gamma} {}_{s}^{t}\Gamma \in \hbar$$

$${}_{0}\iota \neq {}_{1}\iota \Longrightarrow \Gamma \text{ u-stet } \Longrightarrow \bigvee_{\text{part}} \bigcup_{1 \leqslant i \leqslant m} s_{i-1}|s_{i} = H = \bigcup_{1 \leqslant j \leqslant n} t_{j-1}|t_{j}$$

$$\bigwedge_{i:j} {}_{s_{i-1}|s_i}^{t_{j-1}|t_j}\Gamma \subset {}_{j}\hbar_{\text{rund}}^{\;i} \subsetneq \hbar \begin{cases} \gamma_{j}^{i} \in {}_{j}\hbar^{i} \triangle_{1+0} \mathbb{K} \\ d\gamma_{j}^{i} = {}_{j}\hbar^{i}\P \end{cases}$$

$$\Longrightarrow \bigwedge_{j<n} \gamma_{j}^{i} - \gamma_{j+1}^{i} \underset{{}_{j}\hbar^{i} \cap {}_{j+1}\hbar^{i} \text{ 0-prim}}{=} c_{j}^{i}$$

$${}_{s}\iota \text{ closed } \Longrightarrow \gamma_{n}^{i} - \gamma_{1}^{i} \underset{{}_{n}\hbar^{i} \cap {}_{1}\hbar^{i}\text{prim}_{0}}{=} c_{n}^{i}$$

$$\bigwedge_{i} \int^{s_{i-1}\iota} \P - \int^{s_{i}\iota} \P = \sum_{1 \leqslant j \leqslant n} \left({}_{s_{i-1}}\iota\gamma_{j}^{i} - {}_{s_i}\iota\gamma_{j}^{i} \right) |\partial t_{j-1}|t_{j} = \sum_{1 \leqslant j \leqslant n} \left({}_{s_{i-1}}^{t_j}\iota\gamma_{j}^{i} - {}_{s_i}^{t_j}\iota\gamma_{j}^{i} - {}_{s_{i-1}}^{t_{j-1}}\iota\gamma_{j}^{i} + {}_{s_i}^{t_{j-1}}\iota\gamma_{j}^{i} \right)$$

$$= \sum_{1 \leqslant j < n} \overbrace{{}_{s_{i-1}}^{t_j}\iota \underbrace{\gamma_{j}^{i} - \gamma_{j+1}^{i}} - {}_{s_i}^{t_j}\iota \underbrace{\gamma_{j}^{i} - \gamma_{j+1}^{i}}} + \begin{cases} \overbrace{{}_{s_{i-1}}^{1}\iota\gamma_{n}^{i} - {}_{s_{i-1}}^{0}\iota\gamma_{1}^{i}} - \overbrace{{}_{s_i}^{1}\iota\gamma_{n}^{i} - {}_{s_i}^{0}\iota\gamma_{1}^{i}} = c_{n}^{i} - c_{n}^{i} = 0 & {}_{s}^{0}\iota = {}_{s}^{1}\iota \\ \underbrace{{}_{s_{i-1}}^{1}\iota\gamma_{n}^{i} - {}_{s_i}^{1}\iota\gamma_{n}^{i}} - \underbrace{{}_{s_{i-1}}^{0}\iota\gamma_{1}^{i} - {}_{s_i}^{0}\iota\gamma_{1}^{i}} = 0 - 0 = 0 & {}_{s}^{0}\iota = a{:}{}_{s}^{1}\iota = b \end{cases}$$