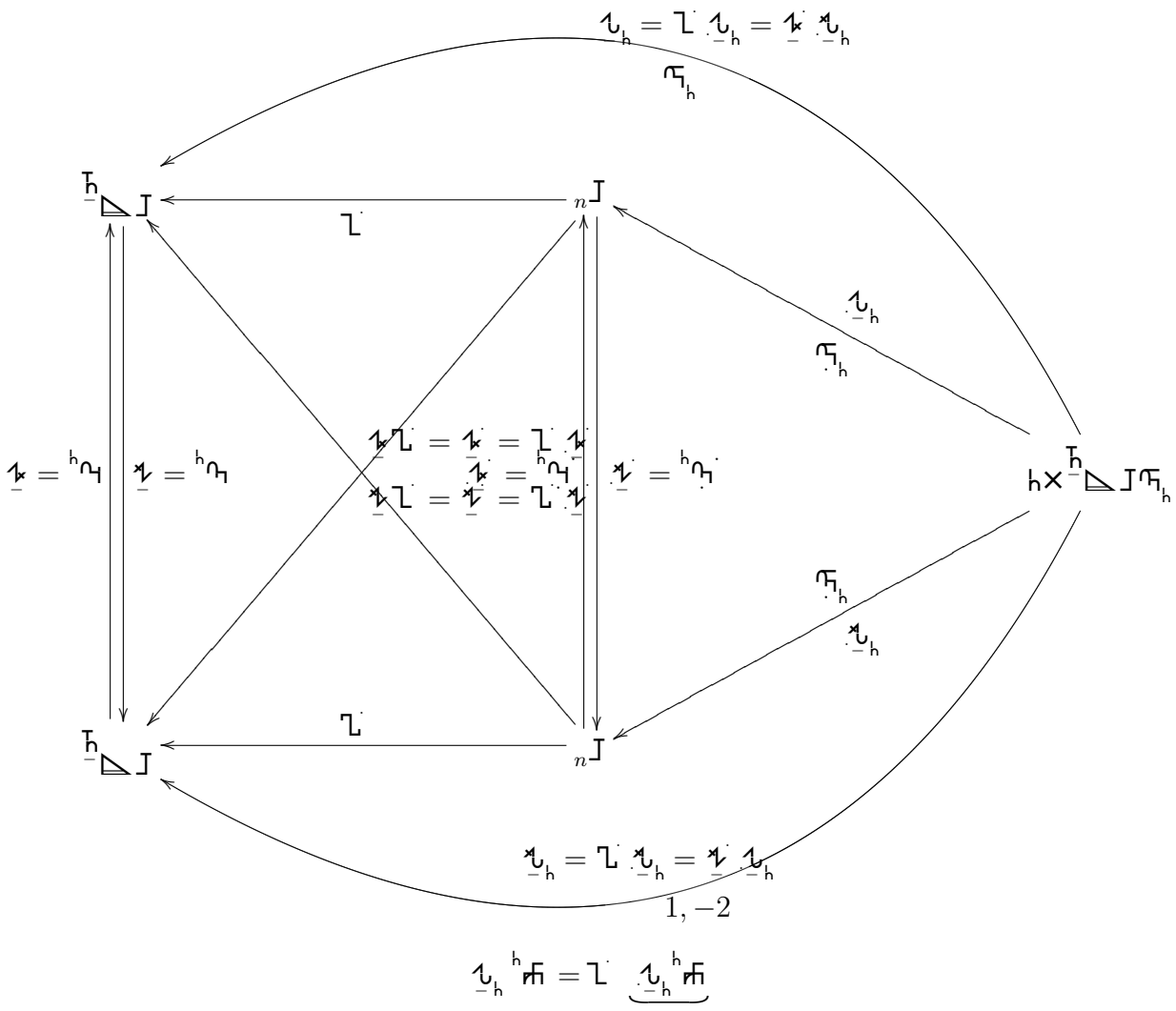
$$\underbrace{\mathrm{Id}_{X\times Y}\circ\cdots\circ\mathrm{Id}_{X\times Y}}_{n}=\mathrm{Id}_{X\times Y}$$


$1, -2$

$\mathbb{R}^n$
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$\mathbb{R}^n$
$\mathbb{R}^n$
$\mathbb{R}^n$
$\mathbb{R}^n \times \mathbb{R}^n$

$$\begin{cases} \dot{x}^{h}_{h} & = \dot{L}\underbrace{\dot{x}^{h}_{h}} = \dot{x}^{h}_{h}\underbrace{\dot{\bar{u}}^{h}_{h}} \\ \dot{y}^{h}_{h} & = \dot{L}\underbrace{\dot{y}^{h}_{h}} = \dot{L}\underbrace{\dot{\bar{u}}^{h}_{h}} \end{cases}$$

$$\dot{\bar{u}}^{h}_{h} = \begin{cases} \dot{x}^{h}_{h}\underbrace{\dot{x}^{h}_{h}} \\ \dot{L}\underbrace{\dot{y}^{h}_{h}} \end{cases}$$

$$\underbrace{\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1}}_{*}\eta\circ\underbrace{\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1}}_{*}\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1}\mathrm{pr}_1^{-1

$$\begin{cases} \overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}} & = \mathrm{L}\,\underbrace{\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}} = \overset{h}{\mathrm{A}}\,\underbrace{\overset{h}{\mathrm{U}}\overset{h}{\mathrm{H}}} \\ \mathrm{G}\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}} & = \mathrm{L}\,\underbrace{\mathrm{G}\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}} = \mathrm{F}\,\underbrace{\overset{h}{\mathrm{U}}\overset{h}{\mathrm{H}}} \end{cases}$$

$$\overset{h}{\mathrm{U}}\overset{h}{\mathrm{H}} = \begin{cases} \overset{h}{\mathrm{A}}\,\underbrace{\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}} \\ \mathrm{L}\,\underbrace{\mathrm{G}\overset{h}{\mathrm{H}}\overset{h}{\mathrm{H}}} \end{cases}$$