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2 dimensional Lie groups

- $[x,y] = 0$
 - (simply connected) $(\mathbb{R}^2, +)$
 - $\mathbb{T}^2$
- $[x,y] = x$
 - (simply connected) $\left\{ \begin{bmatrix} a & b \\ 0 & 1 \end{bmatrix} : a > 0, b \in \mathbb{R} \right\}$ ^[1]

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 - [manifolds](#)
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1. [What are the simply-connected two-dimensional Lie groups?](#) - Mathematics Stack Exchange ↩