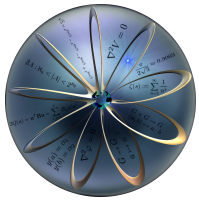

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G-Set

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If G is a group and X a set, then X is called a left G-Set if there exists a mapping $\lambda : G \times X \to X$ with

$$\lambda(g_1, \lambda(g_2, x)) = \lambda(g_1 g_2, x)$$

or shorter with $\lambda(g, x) = gx$

$$g_1(g_2(x)) = (g_1 g_2)(x)$$

for all $x \in X$ and $g_1, g_2 \in G$. And when G acts on a set X, the set X is always a G-set.

X is called a right G-Set if there exists a mapping $\lambda : X \times G \to X$ with

$$\lambda(\lambda(x, g_2), g_1) = \lambda(x, g_2 g_1)$$