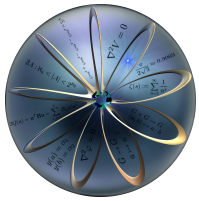

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zero map

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Defines	zero operator

Definition Suppose X is a set, and Y is a vector space with zero vector 0. If Z is a map $Z : X \to Y$, such that $Z(x) = 0$ for all x in X, then Z is a **zero map**.

0.0.1 Examples

1. On the set of non-invertible $n \times n$ matrices, the determinant is a zero map.

2. If X is the zero vector space, any linear map $T : X \to Y$ is a zero map. In fact, $T(0) = T(0 \cdot 0) = 0T(0) = 0$.

3. If $X = Y$ and its field is $\mathbb{R}$ or $\mathbb{C}$, then the spectrum of Z is $\{0\}$.