



Math for the people, by the people.

zero vector space

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Definition A **zero vector space** is a vector space that contains only one element, a zero vector.

0.0.1 Properties

1. Every vector space has a zero vector space as a vector subspace.
2. A vector space X is a zero vector space if and only if the dimension of X is zero.
3. Any linear map defined on a zero vector space is the zero map. If T is linear on $\{0\}$, then $T(0) = T(0 \cdot 0) = 0T(0) = 0$.