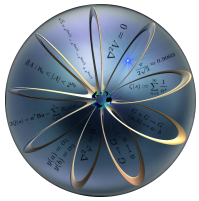

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origin

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In the vector space $\mathbb{R}^n$, the word *origin* refers to the zero point, that is the point $(0, \ldots, 0)$. Similarly for $\mathbb{C}^n$. definitions can be made for any vector space. Often the notation 0 or O is used for the origin.

In some contexts the choice of "origin" can be arbitrary and thus not natural. For example, if we think of Euclidean space as an affine space or as a Riemannian manifold, it has no natural origin. Many theorems about local properties of manifolds are stated for values near the origin in some vector space. This is because any point on the manifold can be the origin in some set of local coordinates.