



Math for the people, by the people.

non-zero vector

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A **non-zero vector** in a vector space V is a vector that is not equal to the zero vector in V .

If \mathbf{u} is a non-zero vector in V and a is a scalar, i.e. an element of the field over which V is defined, then the equation $a\mathbf{u} = \mathbf{0}$ is possible only in the case $a = 0$.