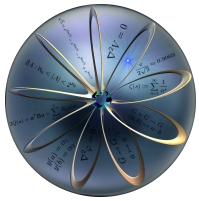

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nilradical

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Defines	nilpotent

Let R be a commutative ring. An element $x \in R$ is said to be *nilpotent* if $x^n = 0$ for some positive integer n. The set of all nilpotent elements of R is an ideal of R, called the *nilradical* of R and denoted $\mathrm{Nil}(R)$. The nilradical is so named because it is the radical of the zero ideal.

The nilradical of R equals the prime radical of R, although proving that the two are equivalent requires the axiom of choice.