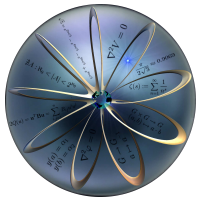

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associator

Canonical name	Associator
Date of creation	2013-03-22 14:43:21
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Entry type	Definition
Classification	msc 17A01
Related topic	AlternativeAlgebra
Related topic	PowerAssociativeAlgebra
Related topic	FlexibleAlgebra
Related topic	Commutator
Defines	anti-associative

Let A be a non-associative algebra over a field. The *associator* of A, denoted by $[\ ,,]$, is a `http://planetmath.org/multilinear`trilinear map from $A \times A \times A$ to A given by:

$$[\ a, b, c\ ] = (ab)c - a(bc).$$

Just as the commutator measures how close an algebra is to being commutative, the associator measures how close it is to being associative. $[\ ,,] = 0$ identically iff A is associative.

References

[1] R. D. Schafer, *An Introduction on Nonassociative Algebras*, Dover, New York (1995).