



Math for the people, by the people.

## operator

Canonical name	Operator
Date of creation	2013-03-22 12:20:26
Last modified on	2013-03-22 12:20:26
Owner	rmilson (146)
Last modified by	rmilson (146)
Numerical id	6
Author	rmilson (146)
Entry type	Definition
Classification	msc 03-00
Synonym	mapping function

Synonym of mapping and function. Often used to refer to mappings where the domain and codomain are, in some sense a space of functions.

Examples: differential operator, convolution operator.

In the study of algebraic systems such as groups and rings, an operator often refers to a mapping from some cartesian power  $A^\lambda$  of a set  $A$  to the set  $A$ , where  $\lambda$  is a cardinal. For example, multiplication of integers can be thought of as an operator from  $\mathbb{Z}^2$  to  $\mathbb{Z}$ .