



Math for the people, by the people.

partial function

Canonical name	PartialFunction
Date of creation	2013-03-22 12:58:15
Last modified on	2013-03-22 12:58:15
Owner	Henry (455)
Last modified by	Henry (455)
Numerical id	11
Author	Henry (455)
Entry type	Definition
Classification	msc 03E20
Defines	total function
Defines	domain of definition

A function  $f : A \rightarrow B$  is sometimes called a *total function*, to signify that  $f(a)$  is defined for every  $a \in A$ . If  $C$  is any set such that  $C \supseteq A$  then  $f$  is also a *partial function* from  $C$  to  $B$ .

Clearly if  $f$  is a function from  $A$  to  $B$  then it is a partial function from  $A$  to  $B$ , but a partial function need not be defined for every element of its domain. The set of elements of  $A$  for which  $f$  is defined is sometimes called the *domain of definition*.