

Mathematical Notation

$a \in S$	a is an element of S
$a \notin S$	a is not an element of S
$T \supset S$	T contains S
$S \subset T$	S is contained in T S is a subset of T
$A \cup B$	A union B
$A \cap B$	A intersection B
$A - B$	$\{a \in A \mid a \notin B\}$
$A \times B$	$\{(a, b) \mid a \in A, b \in B\}$
\forall	For each or for all
<i>iff</i>	If and only if
\exists	There exists
$\exists!$	There exists a unique
\ni	Such that
s.t.	Such that
$1 - 1$	One to one
\emptyset	Empty set or null
\Rightarrow	implies
q.e.d.	Indicates that a proof is complete
\square	Indicates that a proof is complete
///	Indicates that a proof is complete
$ S $	Cardinality of the set S ; that is, the number of elements in S
\underline{n}	$\{1, 2, 3, \dots, n\}$
$[n]$	$\{1, 2, 3, \dots, n\}$
\mathbb{R}	Real numbers
\mathbb{N}	Positive integers 1,2,3,...
\mathbb{Z}	Integers ...-3,-2,-1,0,1,2,3,...
\otimes	contradiction
$\rightarrow \leftarrow$	contradiction
S	Suppose