

Math

$\lceil x \rceil$	ceiling (the smallest integer greater than or equal to x)
$\lfloor x \rfloor$	floor (the largest integer less than or equal to x)

Boolean Operations

\wedge	logical AND
\vee	logical OR
\neg	logical NOT
\oplus	logical XOR

Set Operations

\emptyset	the empty set
\cap	intersection
\cup	union
\overline{A}	complement of A
A^c	also the complement of A
$a \in A$	a is an element of the set A
$ A $	the size (number of elements) of A
$A \subseteq B$	A is a subset of (possibly equal to) B
$A \subsetneq B$	A is a strict subset (not equal to) B
$A \times B$	Cartesian product of A and B ; consists of $\{(a, b) : a \in A, b \in B\}$.
$P(S)$	powerset (set of all subsets) of S
2^S	also means powerset of S
$A \setminus B$	set difference; all the elements of A that are not in B

Functions and Relations

$f : A \rightarrow B$	a function f taking as input elements of A and outputting elements of B .
\sim	a relation
$f \circ g$	function composition: $(f \circ g)(x) = f(g(x))$

Strings and Languages

ε	the zero-length string
x^n	n copies of x
x^*	zero or more copies of x
x^+	one or more copies of x
$\{x, y\}$	x or y
$xy, x \cdot y$	x concatenated with y ; that is, the string x followed by the string y
$ x $	the length of x

Proofs

\forall	for all
\exists	there exists

Additional Resources

DeTeXify Draw a symbol and it finds the LaTeX command