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Pronunciation of Basic Mathematical Expressions

The pronunciations of the most common mathematical expressions are given in the list below. In general, the shortest versions are preferred (unless greater precision is necessary).

1. Logic
   - $\exists$: There exists
   - $\forall$: For all
   - $p \Rightarrow q$: p implies q / if p, than q
   - $p \Leftrightarrow q$: p if and only if q / p is equivalent to q / p and q are equivalent
2. Sets
   - $x \in A$: x belongs to A / x is an element(member) of A
   - $x \notin A$: x does not belong to A / x is not an element(member) of A
   - $A \subset B$: A is contained in B / A is a subset of B
   - $A \supset B$: A contains B / B is a subset of A
   - $A \cap B$: A cap B / A meet B / A intersection B
   - $A \cup B$: A cup B / A join B / A union B
3. Real Numbers
   - $x + 1$: x plus one
   - $x - 1$: x minus one
   - $x \pm 1$: x plus or minus one
   - xy : xy / x multiplied by y / x times y
   - $(x + y)(x - y)$: x plus y, x minus y
   - $\frac{x}{y}$: x over y / x divided by y
   - $x = 5$: x equals 5 / x is equal to 5
   - $x \neq 5$: x (is) not equal to 5
   - $x > y$: x is greater than y
   - $x \geq y$: x is greater than or equal to y
   - $x < y$: x is less than y
   - $x \leq y$: x is less than or equal to y
   - $0 < x < 1$: zero is less than x is less than 1
   - $0 \leq x \leq 1$: zero is less than or equal to x is less than or equal to 1
   - $|x|$: the absolute value of x
   - x^2 : x squared / x to the power two
   - x^3 : x cubed
   - x^4 : x to the fourth / x to the power four
   - x^n : x to the power n / x to the nth
   - x^{-n} : x to the minus n
   - $\sqrt{x}$: (square) root (of) x / the square root of x
   - $\sqrt[3]{x}$: cube root (of) x
   - $\sqrt[4]{x}$: fourth root (of) x
   - $\sqrt[n]{x}$: nth root (of) x
   - $\frac{x}{y}$: x over y
   - $n!$: n factorial
   - $\sum_{i=1}^{n} a_i$: the sum from i equals 1 to n a_i / the sum as i runs from 1 to n of the a_i
4. Functions

$f(x)$	:	fx / f of x / the function f of x
$f : S \to T$	:	the function f from S to T
$f'(x)$	:	f prime x / the (first) derivative of f with respect to x
$f''(x)$	:	f double prime x / the second derivative of f with respect to x
$f^{(n)}(x)$	:	f n x / the nth derivative of f with respect to x
$\lim_{x \to 0}$	:	the limit as x approaches zero
$\lim_{x \to +0}$	:	the limit as x approaches zero from above
$\lim_{x \to -0}$	:	the limit as x approaches zero from below
$\log_e y$	:	log y to the base e / log to the base e of y / natural log (of) y
$\ln y$	:	log y to the base e / log to the base e of y / natural log (of) y