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Reading Mathematical Expressions

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Note: Some groups of letters are underlined in order to draw one's attention to their pronunciation.

Basics

$a + b$	a plus b
$a - b$	a minus b
$a \cdot b$	ab, a times b
$\frac{a}{b}$, a/b	a over b, a divided by b
$\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\ldots$, $\frac{1}{10}$	one half, one third, one fourth, ... , one tenth
$\frac{5}{2}$, $\frac{2}{3}$, $\ldots$, $\frac{7}{10}$	five halves, two thirds, ... , seven tenths
$a = b$	a equals b, a is equal to b
$a \neq b$	a different from b, a not equal to b
$a < b$	a (strictly) less than b
$a \leq b$	a less than or equal to b
$a > b$	a (strictly) bigger than b, a greater than b
$a \geq b$	a greater than or equal to b

Powers and roots

a^b	a to the b, a to the b-th (power) [if b is a positive integer]
x^2	x squared
x^3	x cubed
x^{-1}	x inverse
$\sqrt[n]{t}$	n-th root of t
$\sqrt{t}$	square root of t
$\sqrt[3]{t}$	cubic root of t

Sets

$\emptyset$	(the) empty set
$A \cup B$	A union B
$A \cap B$	A intersected with B
A^c	the complement of A
$A \setminus B$	A minus B
$A \times B$	A times B
$x \in A$	x in A, x belongs to A, x belonging to A

Miscellaneous

5%	five percent
30°	thirty degrees
x_k	x k
x_i^j	x i j [if j is an index, not an exponent!]
$\sum_{k=1}^{n} k^2$	sum k equals 1 to n of k^2, sum for k (running) from 1 to n of k^2, summation k from 1 to n of k^2
$\prod_{k=1}^{n} \frac{2k+1}{2k+2}$	product k equals 1 to n of $2k+1$ over $2k+2$ product for k (running) from 1 to n of $2k+1$ over $2k+2$
$n!$	n factorial
partie entière de x	integer part of x
$\lvert x \rvert$	absolute value of x (if x is a real number)
$\lvert z \rvert$	modulus of z (if z is a complex number)
$\mathrm{Re}(z)$, $\mathrm{Im}(z)$	real part of z, imaginary part of z
$\parallel x \parallel$	norm of x
$\langle v, w \rangle$	scalar product of v and w
cos sin tan etc.	cosine/cosinus sine/sinus tangent etc.
η θ ξ	eta [íta] theta [thíta] xi [ksái]
π σ χ ψ	pi [pái] sigma [zígma] chi [kái] psi [sái]
$\mathbb{R}^2$, $\mathbb{R}^3$, $\mathbb{R}^n$	$\mathbb{R}$ 2, $\mathbb{R}$ 3, $\mathbb{R}$ n
$(blablabla) \cdot (blbl)$	*blablabla*, the whole times *blbl*
$\frac{blablabla}{blbl}$	*blablabla*, the whole divided by *blbl*
$x_1, \ldots, x_n$	x_1 up to x_n

Calculus

f'	f prime, f dashed
$\frac{d}{dx}$	d by dx
$\frac{df}{dx}$, $\frac{\partial f}{\partial x}$	df by dx
$\partial_x f$	$d\ x\ f$, partial derivative of f with respect to x
$\int_a^b f(s)ds$	integral from a to b (of) $f(s)\ ds$
$\iint_D$, $\iiint_D$	double integral, triple integral over the domain D
$\pm\infty$	plus/minus infinity
$\lim_{x\to a} f(x)$	(the) limit of $f(x)$ as x tends/goes to a,
	(the) limit of f of x as x tends/goes to a
$\log(x)$, $\log_a x$	logarithm of x, logarithm in base a of x
$\exp(x)$, e^x	exponential of x, e to the x

Functions

$f : U \to V$	f from U to V
$f(x)$	f of x
$x \mapsto f(x)$	x maps to $f(x)$
of class C^k	of class $C\ k$
of class C^∞	of class C infinity
the Lebesgue spaces L^p, L^∞	the Lebesgue spaces $L\ p$, L infinity
the Sobolev spaces H^k, $W^{k,p}$	the Sóbolev spaces $H\ k$, $W\ k\ p$