

addition	<code>a+b</code>	$a + b$
subtraction	<code>-</code>	$-$
multiplication	<code>\times</code> or <code>\cdot</code>	$\times$ or $\cdot$
plus or minus	<code>\pm</code>	$\pm$
less than or equal	<code>\le</code>	$\leq$
greater than or equal	<code>\ge</code>	$\geq$
not equal	<code>\ne</code>	$\neq$
approximately equal	<code>\approx</code>	$\approx$
big fraction	<code>\frac{a+b}{c}</code>	$\frac{a+b}{c}$
exponentiation	<code>2\times 10^3</code> <code>2\times 10^{13}</code>	2×10^3 2×10^{13}
subscript	<code>x_i</code>	x_i
roman subscript	<code>x_{\text{initial}}</code>	x_{initial}
units/roman text	<code>2\text{ m}</code>	2 m
square root	<code>\sqrt{2}</code>	$\sqrt{2}$
natural log	<code>\ln{2}</code>	$\ln 2$
sine	<code>\sin{\pi}</code>	$\sin \pi$
dots	<code>1+x+\cdots</code>	$1 + x + \cdots$

Figure 1: Mathematical symbols

What is LaTeX? LaTeX (usually pronounced “Lay teck”) is a mathematics typesetting program that is the standard for most professional mathematics writing.

Math vs. text LaTeX makes a distinction between mathematics and text. This guide for now will only introduce math mode.

Comments Use `%` to create a comment. Nothing on the line after the `%` will be typeset.

parentheses	<code>(a+b)</code>	$(a + b)$
square brackets	<code>[a+b]</code>	$[a + b]$
curly braces	<code>\{a+b\}</code>	$\{a + b\}$
big parentheses	<code>\left(\frac{dy}{dt}\right)</code>	$\left(\frac{dy}{dt}\right)$
big square	<code>\left[\frac{dy}{dt}\right]</code>	$\left[\frac{dy}{dt}\right]$
big curly	<code>\left\{\frac{dy}{dt}\right\}</code>	$\left\{\frac{dy}{dt}\right\}$

Figure 3: Groupings

<code>\alpha</code>	α
<code>\beta</code>	β
<code>\gamma</code>	γ
<code>\delta</code>	δ
<code>\Delta</code>	Δ
<code>\epsilon</code>	ϵ
<code>\varepsilon</code>	ε
<code>\phi</code>	ϕ
<code>\varphi</code>	φ
<code>\pi</code>	π
<code>\tau</code>	τ
<code>\theta</code>	θ
<code>\omega</code>	ω
<code>\Omega</code>	Ω
<code>\xi</code>	ξ

Figure 2: Greek letters