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

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

Figure 3: Groupings

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

Figure 2: Greek letters