

TYPST MATH SYNTAX SHOWCASE

Comprehensive reference of supported Typst math expressions rendered in PDF

SECTION 1 — BASIC ARITHMETIC & SYMBOLS

Description	Math Expression	Typst Source
Simple addition	$a + b = c$	<code>\$ a + b = c \$</code>
Greek symbols	$\alpha + \beta = \gamma$	<code>\$ alpha + beta = gamma \$</code>
Comparison operators	$x \leq y$	<code>\$ x <= y \$</code>
Not equal	$\theta \neq \pi$	<code>\$ theta != pi \$</code>
Number sets	$\mathbb{R}^3 \subseteq \mathbb{C}^3$	<code>\$ RR^3 subset.eq CC^3 \$</code>
Arrows	$a \rightarrow b$	<code>\$ a -> b \$</code>
Universal quantifier	$\forall x \in \mathbb{R}, \exists y \in \mathbb{R}: y \geq x$	<code>\$ forall x in RR, exists y... \$</code>

SECTION 2 — SUPERSCRIPTS & SUBSCRIPTS

Description	Math Expression	Typst Source
Superscript (power of 2)	x^2	<code>\$ x^2 \$</code>
Subscript (indexed)	x_i	<code>\$ x_i \$</code>
Combined super/subscript	$a_1^2 + b_2^3 = c$	<code>\$ a_1^2 + b_2^3 = c \$</code>
Area of circle	$A = \pi r^2$	<code>\$ A = pi r^2 \$</code>
Euler's identity	$e^{i\pi} + 1 = 0$	<code>\$ e^(i pi) + 1 = 0 \$</code>
Energy-mass equivalence	$E = mc^2$	<code>\$ E = m c^2 \$</code>

SECTION 3 — FRACTIONS & ROOTS

Description	Math Expression	Typst Source
Simple fraction	$\frac{a}{b}$	<code>\$ frac(a, b) \$</code>
Complex fraction	$\frac{a+b}{c-d}$	<code>\$ frac(a+b, c-d) \$</code>
Square root	\sqrt{x}	<code>\$ sqrt(x) \$</code>
Cube root	$\sqrt[3]{x}$	<code>\$ root(3, x) \$</code>

Pythagorean theorem	$c = \sqrt{a^2 + b^2}$	<code>\$ c = sqrt(a^2 + b^2) \$</code>
Quadratic formula	$x = \frac{-b}{2a}$	<code>\$ x = frac(-b, 2 a) \$</code>
Norm of a vector	$\ x\ = \sqrt{x_1^2 + x_2^2}$	<code>\$ norm(x) = sqrt(x_1^2 + x_2^2) \$</code>

SECTION 4 — CALCULUS & INTEGRALS

Description	Math Expression	Typst Source
Definite integral	$\int_0^1 x^2 dx$	<code>\$ integral_0^1 x^2 dx \$</code>
Integral with fraction	$\int_a^b \frac{1}{1+x^2} dx$	<code>\$ integral_a^b frac(1, 1+x^2) dx \$</code>
Improper integral	$\int_0^\infty e^{-x} dx$	<code>\$ integral_(0)^oo e^(-x) dx \$</code>
Double integral	$\iint_A f(x, y) dx dy$	<code>\$ integral.double_A f(x,y) dx dy \$</code>
Triple integral	$\iiint_V \rho(x, y, z) dV$	<code>\$ integral.triple_V rho(x,y,z) dV \$</code>
Contour integral	$\oint_C F \cdot dr$	<code>\$ integral.cont_C F dot dr \$</code>
Partial derivative	$\frac{\partial f}{\partial x}$	<code>\$ partial f / partial x \$</code>
2nd partial derivative	$\frac{\partial^2 u}{\partial x^2}$	<code>\$ partial^2 u / partial x^2 \$</code>
Limit	$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$	<code>\$ lim_(x -> 0) frac(sin x, x) = 1 \$</code>
Nabla divergence	$\nabla \cdot F = 0$	<code>\$ nabla dot F = 0 \$</code>
Nabla curl	$\nabla \times F = 0$	<code>\$ nabla times F = 0 \$</code>

SECTION 5 — SUMS, PRODUCTS & LIMITS

Description	Math Expression	Typst Source
Summation	$\sum_{k=1}^n k = \frac{n(n+1)}{2}$	<code>\$ sum_(k=1)^n k = frac(n(n+1), 2) \$</code>
Product (factorial)	$\prod_{i=1}^n i = n!$	<code>\$ product_(i=1)^n i = n! \$</code>
Limit to infinity	$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = e$	<code>\$ lim_(n -> oo) (1+frac(1,n))^n = e \$</code>
Derivative notation	$\frac{d}{dx} (x^3) = 3x^2$	<code>\$ d/dx (x^3) = 3x^2 \$</code>

SECTION 6 — FUNCTIONS, DELIMITERS & ACCENTS

Description	Math Expression	Typst Source
Absolute value	$ x $	<code>\$ abs(x) \$</code>
Floor function	$\lfloor x \rfloor$	<code>\$ floor(x) \$</code>
Ceiling function	$\lceil x \rceil$	<code>\$ ceil(x) \$</code>
Binomial coefficient	$\binom{n}{k}$	<code>\$ binom(n, k) \$</code>
Vector notation	$\begin{bmatrix} a \\ b \\ c \end{bmatrix}$	<code>\$ vec(a, b, c) \$</code>
Matrix (identity)	$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$	<code>\$ mat(1, 0; 0, 1) \$</code>
Hat accent	\hat{x}	<code>\$ hat(x) \$</code>
Tilde accent	\tilde{x}	<code>\$ tilde(x) \$</code>
Bar accent	\bar{x}	<code>\$ bar(x) \$</code>
Combined accents	$\hat{x} + \tilde{y} + \bar{z}$	<code>\$ hat(x)+tilde(y)+bar(z) \$</code>
Cancel (strikethrough)	\cancel{x}	<code>\$ cancel(x) \$</code>

SECTION 7 — ADVANCED EXPRESSIONS

Description	Math Expression	Typst Source
Lorentz-like equation	$\cdot(x)_j = \frac{q}{c} \sum_{l=1}^n \cdot(x)_l \left[\frac{\partial A}{\partial x_j} - \frac{\partial A_l}{\partial x_l} \right]$	<code>complex expression</code>
Maxwell tensor	$F_{\mu,\nu} = \begin{pmatrix} -B_z & 0 & B_x & -iE_y \\ B_z & -B_x & 0 & -iE_z \\ iE_x & iE_y & iE_z & 0 \end{pmatrix}$	<code>4x4 matrix expression</code>
FOIL expansion	$((ax + b)(cx + d)) = acx^2 + (ad + bc)x + bd$	<code>\$ ((a*x+b)*(c*x+d))=... \$</code>
SVD decomposition	$A = U \Sigma V^T$	<code>\$ A = U Sigma V^T \$</code>
Determinant	$\det = \lambda_1 \lambda_2$	<code>\$ det(A) = lambda_1 lambda_2 \$</code>
De Morgan's law	$\neg (p \wedge q) \Leftrightarrow (\neg p) \vee (\neg q)$	<code>\$ not(p and q) iff... \$</code>
Set chain inclusion	$\mathbb{N} \subseteq \mathbb{Z} \subseteq \mathbb{Q} \subseteq \mathbb{R} \subseteq \mathbb{C}$	<code>\$ \mathbb{N} \subseteq \mathbb{Z} \subseteq \mathbb{Q} \subseteq \mathbb{R} \subseteq \mathbb{C} \$</code>