Complex equation gallery

Original examples: inspect fraction bars, script roles, radicals, accents, matrices and mathematical alphabets.

M01: Quadratic roots

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

M02: Continued fraction

$$\cfrac{1}{1 + \cfrac{1}{2 + \cfrac{1}{3}}}$$

M03: Binomial coefficient

$$\binom{n}{k}$$

M04: Nested roots

$$\sqrt[3]{x + \sqrt{y + \sqrt{z}}}$$

M05: Indexed tensor

$$T^{k\,l}_{i\,j} = a_i\, b^k$$

M06: Series with limits

$$\sum_{k=1}^{n} \frac{1}{k^2}$$

M07: Improper integral

$$\int_0^{\infty} e^{-x^2}\, dx$$

M08: Partial derivatives

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$$

M09: Matrix with expressions

$$\begin{bmatrix} \frac{1}{2} & \sqrt{2} \\ a_i & b^2 \end{bmatrix}$$

M10: Piecewise values

$$\begin{cases} x^2 & x \geq 0 \\ -x & x < 0 \end{cases}$$

M11: Vector and hat accents

$$\vec{v} + \hat{x}$$

M12: Overline and underline

$$\overline{A\ B} + \underline{x}$$

M13: Limits of a ratio

$$\lim_{x \to 0} \frac{\sin x}{x} = 1$$

M14: Probability

$$P(A \mid B) = \frac{P(A \cap B)}{P(B)}$$

M15: Mathematical alphabets

$$\mathbb{R} \supset \boldsymbol{v} \in \mathcal{F} + \alpha$$

M16: Semantic annotation

$$\frac{\alpha}{\beta}$$

M17: Phantom alignment space

$$x + y$$

M18: Custom separators

$$\langle x\,;\, y \mid z \mid w \rangle$$

M19: Bevelled fraction

$$a + b \,/\, c$$

M20: Text and quoted string

$$f(\mathit{input}) = \text{output value}$$

LaTeX frontend

L01

x_1^2+y_2^3=z^4

$$x_1^2+y_2^3=z^4$$

L02

\frac{-b\pm\sqrt{b^2-4ac}}{2a}

$$\frac{-b\pm\sqrt{b^2-4ac}}{2a}$$

L03

\frac{1}{1+\frac{1}{2+\frac{1}{3}}}

$$\frac{1}{1+\frac{1}{2+\frac{1}{3}}}$$

L04

\binom{n}{k}

$$\binom{n}{k}$$

L05

\sqrt[3]{x+\sqrt{y}}

$$\sqrt[3]{x+\sqrt{y}}$$

L06

\sum_{k=1}^{n}\frac{1}{k^2}

$$\sum_{k=1}^{n}\frac{1}{k^2}$$

L07

\prod_{j=1}^{m}(1+x_j)

$$\prod_{j=1}^{m}(1+x_j)$$

L08

```
\int_0^\infty e^{-x^2}\,dx
```

$$\int_0^\infty e^{-x^2}\,dx$$

L09

```
\frac{\partial^2 u}{\partial x^2}+\frac{\partial^2 u}{\partial y^2}=0
```

$$\frac{\partial^2 u}{\partial x^2}+\frac{\partial^2 u}{\partial y^2}=0$$

L10

```
\begin{pmatrix}a&b\\c&d\end{pmatrix}
```

$$\begin{pmatrix}a&b\\c&d\end{pmatrix}$$

L11

```
\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\end{bmatrix}
```

$$\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\end{bmatrix}$$

L12

```
\begin{cases}x^2&x\ge0\\-x&x<0\end{cases}
```

$$\begin{cases}x^2&x\ge0\\-x&x<0\end{cases}$$

L13

```
\hat{x}+\vec{v}
```

$$\hat{x}+\vec{v}$$

L14

```
\overline{AB}+\underline{x}
```

$$\overline{AB}+\underline{x}$$

L15

```
\mathbb{R}+\mathbf{x}+\mathrm{sin}(x)
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$$\mathbb{R}+\mathbf{x}+\mathrm{sin}(x)$$

L16

\lim_{x\to0}\frac{\sin x}{x}=1

$$\lim_{x \to 0} \frac{\sin x}{x} = 1$$

L17

\log(x)+\exp(y)

$$\log(x) + \exp(y)$$

L18

\alpha+\beta\le\gamma

$$\alpha + \beta \leq \gamma$$

L19

a\quad b\qquad c

$$a \quad b \qquad c$$

L20

\left\langle\frac{x}{y}\right\rangle

$$\left\langle \frac{x}{y} \right\rangle$$

L21

\left|\frac{a}{b}\right|

$$\left| \frac{a}{b} \right|$$

L22

\sum\nolimits_{i=1}^{n}i

$$\sum\nolimits_{i=1}^{n} i$$

L23

\text{result}=\frac{a+b}{c}

$$\text{result} = \frac{a + b}{c}$$

L24

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\forall x\in\mathbb{R}:x^2\ge0
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$$\forall x \in \mathbb{R} : x^2 \geq 0$$