

L^AT_EX Maths examples

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1 Symbols

Infinity: ∞

Double bold maths (like real numbers): $\mathbb{R}, \mathbb{C}, \mathbb{N}$

Set notation: $\in, \notin, \exists, \subset, \subseteq, \supset, \supseteq, \cup, \cap, \emptyset$

Logic symbols: $\forall, \exists, \rightarrow, \Rightarrow, \equiv, \Longleftrightarrow, \leftrightarrow, \neg, \sim$

2 Calculus

Derivatives:

$$\frac{dy}{dx} = x^2 + 3$$

$$\frac{d}{dx}y = x^2 + 3$$

$$\frac{\partial y}{\partial x} = xy + 1$$

$$\frac{\partial}{\partial x}[xy] = y$$

Integrals:

$$\int x = \frac{x^2}{2} + c$$

$$\int_0^2 x = 2$$

3 Vectors and linear algebra

A matrix;

$$M = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

A vector;

$$\vec{v} = \begin{pmatrix} a \\ b \end{pmatrix}$$

Determinants;

$$\det A = \begin{vmatrix} a & b \\ c & d \end{vmatrix}$$