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TEXT HERE

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0.1 newpertext has been used in this template for regular text.

Let's start with printing out TeX, LaTeX logo/symbol: \TeX , \LaTeX .

We denote the set of real numbers as \mathbb{R} and that of complex numbers as \mathbb{C} .

A map is written as $f : X \rightarrow Y$ where **im** $f = f(X)$ and **codom** $f = Y$.

These are large brackets:

$$\left(\frac{a}{b}\right)(a+b)$$

A simple set:

$$\left\{\frac{1}{2}, \frac{2}{3}, \frac{\pi^2}{6}\right\}$$

A set with a predicate:

$$\{z : \zeta(z) = 0\}$$

Here are a few matrices:

- Square-brackets:

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

- Round-brackets:

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

- Determinant type:

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

- Small-matrix:

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

Equivalence class of a sequence:

$$\left[\frac{1}{n} \right]$$

Use ceiling and floor like this: $\lceil x \rceil$ and $\lceil \frac{a}{b} \rceil$. You can pass optional size argument to make it bigger like this: $\left\lceil \frac{a}{b} \right\rceil$. Floor is used in a similar manner.

This is an aligned equation:

$$A = 1$$

$$B = 2$$

$$C = 3$$

This is a limit:

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{1}{i^2}$$

Limits of functions $f : \mathbb{R}^m \rightarrow \mathbb{R}^n$ are defined as follows:

$$\lim_{x \rightarrow a} f(x) = p \iff \forall \varepsilon > 0, \exists \delta > 0, |x - a| < \delta \implies |f(x) - f(a)| < \varepsilon$$

Here are some derivatives:

- Regular derivative:

$$\frac{dy}{dx} \left(\sum_{k=1}^{\infty} \frac{1}{k^x} \right)$$

- n'th Derivative:

$$\frac{d^n y}{dx^n} \left(\sum_{k=1}^{\infty} \frac{1}{k^x} \right)$$

To make some text bold, use **this**. To make it italic, use *this*. Note that in-built "bf" and "it" functions do something different.

To

Proof. Q.E.D square looks like this...

