LATEX TUTORIAL

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1 Introduction

Let's begin with a formula $e^{i\pi}+1=0$

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n = \lim_{n \to \infty} \frac{n}{\sqrt[n]{n!}}$$

1. We can do another:

$$e = \sum_{n=0}^{\infty} \frac{1}{n!}$$

• As a continued fraction

We can also use continued fraction

$$e = 2 + \frac{1}{2 + \frac{2}{3 + \frac{3}{4 + \frac{3}{4}}}}$$

More formulas

$$\int_{a}^{b} f(x)dx$$

$$\int_{a}^{b} f(x)dx$$

$$\iiint f(x, y, z)dxdydz$$
(1)

$$\vec{v} = \langle v_1, v_2, v_3 \rangle$$
 (2)

 $\vec{v}\cdot\vec{w}$

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

Equation 2 is a vector

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n = \lim_{n \to \infty} \frac{n}{\sqrt[n]{n!}} = \lim_{t \to 0^+} (1 + t)^{\frac{1}{t}}$$
 (3)

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n \tag{4}$$

$$=\lim_{n\to\infty}\frac{n}{\sqrt[n]{n!}}\tag{5}$$

$$= \lim_{t \to 0^+} (1+t)^{\frac{1}{t}} \tag{6}$$

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n$$

$$= \lim_{n \to \infty} \frac{n}{\sqrt[n]{n!}}$$

$$= \lim_{t \to 0^+} (1+t)^{\frac{1}{t}}$$
(7)

2 More Tricks

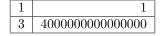


Table 1: Caption

Theorem 2.1 (Hello World Theorem). Hello world

Proof. Proof goes here

Corollary 2.1.1. corollary from the theorem

The real numbers $\mathbb R$

Instead of typing \mathbb{R} always, we can use macros

The real numbers $\mathbb R$

for shorthand for column matrix consisting of 2 elements Now the shorthand usage $\,$

 $\begin{bmatrix} x \\ y \end{bmatrix}$