

Hello latex!

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## introduction

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

1. As a **limit**

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

2. We can do another:

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

3. As a *continued* fractions

$$e = 2 + \frac{1}{1 + \frac{1}{2 + \frac{1}{3 + \frac{1}{4 + \frac{1}{5 + \ddots}}}}}$$

## 1 More formulas

$$\int_a^b f(x) dx$$

$$\iiint f(x, y, z) dx dy dz$$

$$\iint f(x) dx dy$$

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

$$\vec{v} = \vec{v}_1 + \vec{v}_2 + \vec{v}_3$$

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

$$\vec{a} \times \vec{b}$$

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$