

# Test-01

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## 1 Introduction

hello, world

let's begin with a formula  $a^2 + b^2 = c^2$  ,  $e^{i\pi} + 1 = 0$

- double wrap: fraction:

$$\left(1 + \frac{1}{n}\right)^n$$

- auto-scaling brackets:  $\left(1 + \frac{1}{n}\right)^n$

- limit:

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

- sum:

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

- we can also use continued fraction (continued fraction):

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

## More Fomulae

$$\int_a^b f(x) = 6xyz$$

$$\iiint_f(x) dx dy dz = 5x^2 + y^3$$

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

$$\vec{v} \cdot \vec{w} = |v||w|\cos(\theta)$$

$$\text{Matrix A} = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

