

Test 1 Title

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1 LaTeX Math in Markdown

This document demonstrates how to use LaTeX math equations in Markdown.

1.1 Inline Math Equations

You can include inline equations like this: $E = mc^2$ or $(F = ma)$ within your text.

1.2 Display Math Equations

For standalone equations, use double dollar signs:

$$\int_a^b f(x) dx = F(b) - F(a)$$

Or use the equation environment:

$$\frac{d}{dx} \left(\int_a^x f(t) dt \right) = f(x) \tag{1}$$

1.3 Matrix Example

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} ax + by \\ cx + dy \end{pmatrix}$$

1.4 Aligned Equations

$$a = b + c \tag{2}$$

$$= d + e + f \tag{3}$$

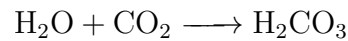
$$= g + h \tag{4}$$

1.5 Fractions and Summations

$$\sum_{i=1}^n \frac{1}{i^2} = \frac{\pi^2}{6}$$

1.6 Chemical Equations

If you have the mhchem package included:



1.7 Greek Letters

Alpha: α , Beta: β , Gamma: γ , Delta: δ , Epsilon: ϵ

1.8 Theorem Environment

Theorem 1. *For a right triangle with sides a , b and hypotenuse c :*

$$a^2 + b^2 = c^2$$

1.9 Proof Environment

Proof. This is a proof of the Pythagorean theorem. □

2 Regular Markdown Features

- Bullet points

- Work normally
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1. Numbered lists
 2. Also work

Bold text and *italic text* are supported.

Blockquotes work as expected.

Tables work too:

| Column 1 | Column 2 | Column 3 |
|----------|----------|----------|
| Cell 1 | Cell 2 | Cell 3 |
| Cell 4 | Cell 5 | Cell 6 |

Code blocks are supported:

```
def hello_world(): print("Hello, world!")
```