BetterLeaf — Compilation Test

BetterLeaf Service

February 20, 2026

1 Introduction

This document exercises multiple LaTeX packages and symbol sets to verify the compilation service handles real-world documents correctly.

2 Mathematics

The quadratic formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}, \quad a \neq 0$$

Euler's identity and related constants:

$$e^{i\pi} + 1 = 0, \qquad \varphi = \frac{1+\sqrt{5}}{2} \approx 1.618\ldots$$

A Gaussian integral:

$$\int_{-\infty}^{\infty} e^{-x^2}\,dx = \sqrt{\pi}$$

A summation with binomial coefficients:

$$\sum_{k=0}^{n} \binom{n}{k} = 2^n$$

Multiline alignment (using `mathtools`):

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\varepsilon_0} \qquad \text{(Gauss's law)}$$

$$\nabla \times \mathbf{B} = \mu_0\mathbf{J} + \mu_0\varepsilon_0\frac{\partial \mathbf{E}}{\partial t} \qquad \text{(Ampère–Maxwell)}$$

Theorem 1 (Cantor)**.** *For any set S, the power set $\mathcal{P}(S)$ satisfies $|\mathcal{P}(S)| > |S|$.*

3 Greek & Miscellaneous Symbols

Symbol	Command	Symbol	Command
α	`\alpha`	Ω	`\Omega`
β	`\beta`	Σ	`\Sigma`
γ	`\gamma`	Δ	`\Delta`
λ	`\lambda`	Θ	`\Theta`
∞	`\infty`	$\forall$	`\forall`
$\exists$	`\exists`	$\varnothing$	`\varnothing`
$\in$	`\in`	$\subseteq$	`\subseteq`
$\implies$	`\implies`	$\iff$	`\iff`
$\langle x \rangle$	`\langle x \rangle`	$\|x\|$	`|x|`

4 Image

Figure 1: A sample photograph included to test image handling.

5 Checklist

- ✓ Zip upload works
- ✓ LaTeX compilation works
- ✓ PDF response works
- ✓ Multiple packages resolved
- ✓ Symbols rendered correctly