Sample Math Document

This is a sample document containing text and LaTeX equations.

Example of a simple equation: $E = mc^2$

Quadratic formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Summation notation: $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$

Integral equation: $\int_{a}^{b} x^2 dx = \frac{b^3 - a^3}{3}$

Matrix notation: $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$