Hello! This is my LaTeX document.
A rectangle has side length of $(x + 1)$ and area of $(x + 3)$. The equation $A(x) = x^2 + 2x + 1$ is the area of the rectangle.
superscripts

$$2x^3$$

$$2x^{34}$$

$$2x^{3x+4}$$

$$2x^{3x^4+5}$$

subscripts

$$x_1$$

$$x_{12}$$

$$x_{1_2}$$

$$a_o, a_1, a_2, \ldots, a_{100}$$

greek letters

$$\pi$$

$$\Pi$$

$$\alpha$$

$$A = \pi r^2$$

trig functions

$$y = \sin x$$

$$y = \cos x$$

$$y = \tan x$$

$$y = \csc \theta$$

$$y = \sin^{-1} x$$

$$y = \arcsin x$$

log functions

$$y = \log x$$

$$y = \log_5 x$$

$$y = \ln x$$

roots

$$\sqrt{2}$$

$$\sqrt[3]{2}$$

$$\sqrt{x^2 + y^2}$$

$$\sqrt{1 + \sqrt{x}}$$

fractions

$$\frac{2}{3}$$

$$\frac{x}{x^2 + x + 1}$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1}}$$

About $\frac{2}{3}$ of the glass is full.

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The distributive law

$$a(b + c) = ab + ac$$

for all $a, b, c \in \mathbb{R}$.
The equivalence class of a is $[a]$.
The set A is defined to be $[\{1, 2, 3\}]$
The movie ticker cost $11.50 dollars.

$$2\left(\frac{1}{x^2 - 1}\right)$$

$$2\left[\frac{1}{x^2 - 1}\right]$$

$$2\left\{\frac{1}{x^2 - 1}\right\}$$

$$2\left\langle\frac{1}{x^2 - 1}\right\rangle$$

$$\left.\frac{dy}{dx}\right|_{x=1}$$

tables

x	1	2	3	4	5
$f(x)$	2	4	6	8	10

x	1	2	3	4	5
$f(x)$	$frac12$	4	6	8	10

Table 1: A table of values for $f(x) = 2x$

Table 2: The relationship between $f(x)$ and $f'(x)$

$f(x)$	$f'(x)$
$x > 0$	The function $f(x)$ is increasing. The function $f(x)$ is increasing. The function $f(x)$ is increasing. The function $f(x)$ is increasing.