Hello, This my first LaTeX document!
The rectangle is of length $(x + 2)$ and $(x + 3)$. The Equation

$$A(x) = x^2 + 4x + 3$$

gives the area of rectangle

Common mathmatical Notation

SuperScript

$$2x^3$$

$$2x^{34}$$

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

$$2x^{3x^{54}}$$

SubScripts

$$x_1$$

$$x_{12}$$

$$x_{1_{2_{3_4}}}$$

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

Greek Letters

$$\pi$$

$$\Pi$$

$$\alpha$$

$$\aleph$$

$$A = \pi r^2$$

Trignometry Function

$$y = \sin x$$

$$y = \cos x$$

$$y = \csc \theta$$

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

$$y = \arcsin x$$

Log Function

$$y = \log x$$

$$y = \log_5 x$$

$$y = \ln x$$

Roots

$$\sqrt{2}$$

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

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

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

Fraction

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

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

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