This is my first LaTeX document.
The perimeter of a rectangle is given by the equation $P(x, y) = 2x + 2y$.
The area of a rectangle is given by the equation

$$A(x, y) = xy$$

.

Superscripts:

$$2x^3$$

$$2x^{34}$$

Subscripts:

$$x_1$$

$$x_{12}$$

$$a_0, a_1, a_2, \ldots, a_n$$

Greek letters:

$$\alpha$$

$$\beta$$

$$\pi$$

Trig functions:

$$y = \sin(x)$$

$$y = \cos(\theta)$$

$$y = \tan^{-1}(\phi)$$

Log functions:

$$y = \log x$$

$$y = \log_2 x$$

$$y = \ln x$$

Roots:

$$\sqrt{x}$$

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

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

Fractions:

$$\frac{x}{y}$$

$$\frac{x^2}{y^3}$$

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