Brackets:

The distributive property states that $a(b + c) = ab + ac$, 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 ticket costs \$11.50.

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

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

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

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

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

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

$$\left(\frac{1}{1+\left(\frac{1}{1+x}\right)}\right)$$

Mathematical notation:

$$p' \tag{1}$$

The whole environment is in mathmode

$$\dot{x}, \ddot{x}, \dddot{x}, \ddddot{x} x_i, x^2 \tag{2}$$

$$x_{ij}, x^{2k} \tag{3}$$

$$x_{ij}^{2k} or x_{ij}^{2k} \tag{4}$$

$$\sum, \sum_{i=1}^{20} \tag{5}$$

$$\prod, \prod_{i=1}^{i=20} \tag{6}$$

$$\int x^2 \, dx, \int_a^b xy \, dx \tag{7}$$

$$\iint\limits_s, \iiint\limits_v, \iiiint \tag{8}$$

$$\idotsint \tag{9}$$

$$\oint \tag{10}$$

$$\frac{x}{y} \tag{11}$$

$$\nabla f, \frac{dx}{dy} \tag{12}$$

$$\frac{\partial y}{\partial x} \tag{13}$$

$$\sqrt{x}, \sqrt[5]{xyz} \tag{14}$$

$$\lim_{x \to 0}, \lim_{x \to 0} \tag{15}$$

$$\exists, \nexists \tag{16}$$

$$\bmod n^2, \mathrm{mod} n^2, \quad \pmod{n^2}, \quad (n^2) \tag{17}$$

$$\binom{n}{k} \tag{18}$$

Eqn. 5 is for Summation symbols.

Basic operators:

$$
\begin{gathered}
\leq \\
\geq \\
\ll \\
\gg \\
\subset \\
\subseteq \\
\in \\
\notin \\
\equiv \\
\sim \\
\approx \\
\neq \\
\propto \\
\not< \\
\not>
\end{gathered}
$$