

superscripts:

$$\begin{aligned}2x^3 \\2x^{34} \\2x^{3x+4} \\2x^{3x^4+5}\end{aligned}$$

subscripts:

$$\begin{aligned}x_1 \\x_{12} \\x_{123}\end{aligned}$$

greek letters:

$$\begin{aligned}\pi \\\Pi \\\alpha \\A = \pi r^2\end{aligned}$$

trig functions:

$$\begin{aligned}y = \sin x \\y = \cos x \\y = \cot x \\y = \tan x \\y = \csc \theta \\y = \sinh \theta \\y = \arcsin \theta \\y = \sin^{-1} 1\end{aligned}$$

log functions:

$$\begin{aligned}\log x \\\log_5 x \\\ln x\end{aligned}$$

square roots:

$$\sqrt{2}$$

$$\begin{aligned}\sqrt[3]{2} \\ \sqrt{x^2 + y^2} \\ \sqrt{1 + \sqrt{x}}\end{aligned}$$

fractions:

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

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$$\begin{aligned}\frac{x}{x^2 + x + 1} \\ \frac{\sqrt{x+1}}{\sqrt{x-1}} \\ \frac{1}{1 + \frac{1}{x}} \\ \sqrt{\frac{x}{x^2 + x + 1}}\end{aligned}$$