Superscripts:

$$2x^3$$

$$2x^{34}$$

$$2x^{23+4y^{32}+5}$$

Subscripts:

$$x_1$$

$$x_{12}$$

$$x_{1_2}$$

$$x_{1_{2_3}}$$

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

Greek letters:

$$\pi$$

$$\Pi$$

$$\alpha$$

$$A = \pi r^2$$

Trig functions:

$$y = \sin x$$

$$y = \cos x$$

$$y = \csc \theta$$

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

$$y = \arccos \theta$$

Log functions:

$$y = \log x$$

$$y = \log_5 x$$

$$y = \ln x$$

Roots:

$$\sqrt{2}$$

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

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

$$\sqrt{2 + \sqrt{2}}$$

Fractions:

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

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

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$$\frac{\sqrt{x + 1}}{\sqrt{x + 3}}$$

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