superscripts:

$$2x^3$$

$$2x^{34}$$

$$2x^{3x+4}$$

$$2x^{3x^4+5}$$

subscripts:

$$x_1$$

$$x_{21}$$

$$x_{12}$$

$$x_{123}$$

greek letters:

$$\pi$$

$$\alpha\beta\gamma$$

$$A = \pi r^2$$

trig functions:

$$y = \sin(x)$$

log functions:

$$\log_5(x)$$

$$ln(x)$$

square roots:

$$\sqrt{32}$$

$$\sqrt[3]{27}$$

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

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

fractions:

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

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

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

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

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