superscripts: $2x^3$ — in line math mode

$$2x^{34}$$

— displayed math mode

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

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

subscripts:

 $s_{AC} - - distance between AC \\$

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

$$a_1, a_2, \ldots$$

– \ldots put 3 dots lower case Greek letter

 π

П

 α

β

 ρ

Trig functions

 \sin

 \cos

 \tan

 \csc

 \arcsin

log function

$$y = \log_2 x$$

 $\ln x$

roots

$$\sqrt[4]{2x+5}$$

Escape velocity = $\sqrt{2gR}$

yo

Wagwan