Insert Equation

QianLiu

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Contents

1 inline Equation

1.1 dollar character

$f(x) = x^2 + 3x$

1.2 parenthesis

$f(x) = x^2 + 3x$

1.3 mathematical enviroment

$f(x) = x^2 + 3x$

2 super/sub script

2.1 superscript

$f(x) = x^2 + 3y^{20}$

2.2 subscript

$f(x) = x^2 + 3x_{20}$

3 greek alphabet

3.1 lowercase

$\alpha\ \beta\ \omega_1\ \gamma\ \pi$

3.2 uppercase

$\Gamma\ \Delta\ \Pi^5\ \Omega\ \ \alpha^2 + \beta^3 = \omega$

4 mathematical functions

$\log_{10}^2 x\ \ \sin^2 x\ \ \cos^3 y\ \ \arcsin x\ \ \arccos z\ \ \ln x\ \ \sqrt{3x^2 + 2y_2^4}\ \ \sqrt[5]{3x}$

5 algebraic fraction

$3/4\ \ \frac{x}{y}\ \ \frac{\sqrt{2y_2^5}}{\sqrt[6]{\sin^2 x + \arcsin z_4^2}}$

6 equation between lines

use $$...$$ insert equation

$$f(x) = 3x + y^3$$

6.1 square brackets

use \[equation...\] insert equation

$$f(x) = 3x + y^3$$

6.2 environment of displaymath

$$f(x) = 3x + y^3$$

6.3 environment where equation enumerated automatically

Refer the equation 1

$$f(x) = 3x + z^3 \tag{1}$$

6.4 environment where equation* are not enumerated

Refer the equation 6.4

$$f(x) = 3x + z^6$$

6.5 Equation in Multiple lines

$$f(x) = 3x + z^3 \tag{2}$$

$$\frac{\sqrt{2y_2^5}}{\sqrt[6]{\sin^2 x + \arcsin z_4^2}}$$

$$f(z) = \frac{x_2^5}{y_3^7} \tag{3}$$

6.6 Split Equation

$$\begin{aligned} f(x) &= 3x + 4x^2 \\ f(x) &= \sin^2 x \\ f(x) &= \cos x^3 \end{aligned} \tag{4}$$

6.7 Piecewise funtion

$$D(x) = \begin{cases} 3x & \text{if } x \in R \\ x^2 & \text{if } x \in Z \setminus Q \end{cases} \tag{5}$$