$$\underbrace{xyz}_{a}$$

$$\overbrace{xyz}^{a}$$

$$\acute{x}$$

$$A \to B$$

$$A \xleftarrow{a+b} B$$

$$B \xrightarrow[c-d]{a-b} C$$

$$\iint x$$

$$\iiint x$$

$$A \Rightarrow B$$

$$A \Longrightarrow B$$

$$x = a + b. \tag{1}$$

$$x = a + b, \tag{2}$$
$$y = c + d + e + f. \tag{3}$$

$$x = a + b, \tag{4}$$
$$y = c + d + e + f, \tag{5}$$

$$\begin{aligned} x = a + b + c + d + e + f \\ + g + h + i + j + k. \\ + l + m + n. \end{aligned} \tag{6}$$

$$\begin{aligned} x &= a + b \\ &= c + d + e. \end{aligned} \tag{7}$$

$$x = a + b, \tag{8a}$$
$$y = c + d + e + f. \tag{8b}$$

$$\begin{aligned} x &= 1, & y &= 2, & &\text{initialize} \\ z &= 3, & w &= 4, & & \end{aligned}$$

some more text, and

$$a = 5, \qquad b = 5.$$

$$\begin{aligned} x &= a + b, & (9) \\ y &= c + d + e + f. & (10) \end{aligned}$$

$$\begin{aligned} y &= d & z &= 1 \\ y(x) &= cx + d & z &= x + 1 \\ y_{12} &= bx^2 + cx & z &= x^2 + x + 1 \end{aligned}$$

$$A \to B$$

$$|x| = \begin{cases} x & x \geq 0 \\ -x & x < 0 \end{cases}$$

$$\lim_{x \to \infty}$$

$$\sum_{n=1}^{\infty} a_n$$

$$\prod_{n=1}^{\infty} a_n$$

$$R^*$$

$$R^\star$$

$$\epsilon$$

$$\lambda$$

dog A loving animal that likes to sleep on the furniture.

cat Aloof creature that can warm your feet on a winter's night

horse Large animal, gives great rides. Eats a lot, luckily doesn't sleep on the furniture.

Name	Oblateness	Diameter
Mercury	0	3,100
Venus	0	7,700
Earth	1/297	7,927
Mars	1/192	4,200
Jupiter	1/15	88,700
Saturn	1/9.5	75,100
Uranus	1/14	32,100
Neptune	1/40	27,700
Pluto	?	3,600

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$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$f'(x_0) = \lim_{x \to x_0} \frac{f(x) - f(x_0)}{x - x_0} \tag{11}$$

$$\begin{aligned} (a+b)(a+b) &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2 && (12) \\ (a+b)(a-b) &= a^2 - ab + ba - b^2 \\ &= a^2 - b^2 && (13) \\ (a+b)^3 &= a^3 + 3a^2b + 3ab^2 + b^3 && (14) \end{aligned}$$

$$\begin{matrix} 17 & 24 & 1 & 8 & 15 \\ 23 & 5 & 7 & 14 & 16 \\ 4 & 6 & 13 & 20 & 22 \\ 10 & 12 & 19 & 21 & 3 \\ 11 & 18 & 25 & 2 & 9 \end{matrix}$$

$$A = \begin{pmatrix} a_{1,1} & a_{1,2} & \dots & a_{1,n} \\ a_{2,1} & a_{2,2} & \dots & a_{2,n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m,1} & a_{m,2} & \dots & a_{m,n} \end{pmatrix} \tag{15}$$

$$\begin{aligned} 2^n &= \overbrace{2 \times 2 \times \cdots \times 2}^{\text{n terms}} \\ k \cdot x &= \underbrace{x + x + \cdots + x}_{\text{k terms}} \end{aligned}$$

$$\frac{a}{b} \qquad \frac{a/b}{c/d} \qquad a \qquad \binom{a}{b}$$

$$1 + 2 + 3 + \cdots + n = \frac{n(n+1)}{2}$$

$$\lim_{n \to \infty} \frac{1}{n} = 0$$

$$\sqrt{2} = 1.4142 \qquad c = \sqrt{a^2 + b^2} \qquad \sqrt[3]{8} = 2 \qquad \sqrt{\frac{n(n+1)}{2}}$$

$$\sum_{n=1}^{\infty} \qquad \int_a^b e^{x^2}\,dx$$

$$\sqrt{\sum_{i=1}^{n} i} \qquad \sum_{\substack{i=1 \\ j=2}}^{\infty}$$

$$\sum \Delta V = \iiint_V dv$$

$$\det = \begin{vmatrix} c_0 & c_1 & c_2 & \dots & c_n \\ c_1 & c_2 & c_3 & \dots & c_{n+1} \\ c_2 & c_3 & c_4 & \dots & c_{n+2} \\ \vdots & \vdots & \vdots & & \vdots \\ c_n & c_{n+1} & c_{n+2} & \dots & c_{2n} \end{vmatrix} > 0.$$

$$\sum_{k=1}^{n} x^2$$

$$A \bowtie B$$

$$A \ltimes B$$

$$A \rtimes B$$

$$A \in B$$

$$A \notin B$$