Hello Wolrd!
$y = 2x - 1$
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$x^{2y}, x^{2y^x}, X_{n_1}^{2y^z}$

$X_{3m}^{2m}, X^2 n_3 m$

X_n^2, X_n^2, X_{n^2}

$2^{2^{2^{2^{2^{2^{2^{2}}}}}}}$

$f'(x) \quad f'''(x)|_{x=0}$

$\pi, \Phi, \Sigma, \mu, \alpha$

$\mathit{\Gamma\Pi\Phi}$는 $\Gamma\Pi\Phi$와 다르다.

... 는 $\Psi\Theta\Omega$와 다르다.

$\sqrt[n]{x}$, $\sqrt[3]{ax+b}$, $\sqrt[2]{5}$, $\sqrt{2}$, $\sqrt[x]{2}$

$$\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+x}}}}}} \tag{1}$$

$$\sqrt{a}\sqrt{d}\sqrt{g}$$

$(x_1 + \cdots + x_n)$
$(a_1, \ldots, a_m)$
$(a_1, \vdots, a_n)$
$(a_1, \ddots, a_n)$

$\dfrac{x^2+1}{y_1^2-1}$

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

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

$\mathcal{A}\otimes$

$\mathcal{A}\unlhd$

$\mathcal{S}$를 $\mathcal{S}=\{A \mid A\ni\mathcal{T}\}$라 하자.

$\not{A}, \emptyset$

$\not\ni, \not\subset, \not<$

$\lim_{n\to\infty}$

$$\liminf_{n\longrightarrow\infty}$$

$liminf_{n\longrightarrow\infty}$

$a \bmod b \qquad y \pmod{a+b}$

$\int\int\cdots\int f dP$

$\int\!\int\cdots\int f dP$

$\iint\cdots\int f dP$

$1/\log n$

$\sqrt{4}\,n$

$$f(x;\mu,\sigma)=\frac{1}{\sqrt{2\pi}\sigma}\exp\left\{-\frac{(x-\mu)^2}{2\sigma^2}\right\}$$

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$$\sum_{i=1}^{n} x_i = \int_0^1 f$$

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$\dfrac{a-b}{c+d}$

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$$\vec{x}+\vec{y}=\left\{\begin{array}{l} a \\ b \end{array}\right.$$

$$\mathbf{A} = \begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix}$$

$$\widehat{a-1} = \widetilde{x-y} + \widehat{\mathrm{Cov}}$$

$$\begin{array}{lrr} a & b & c \\ a-b & b-c & c-a \\ x^2+2x+1 & x^2+2x+1 & x^2+2x+1 \end{array}$$

$$\begin{array}{c} a_{11}x_1 + a_{12}x_2 + \cdots + a_{1n}x_n = b_1 \\ a_{11}x_1 + a_{12}x_2 + \cdots + a_{1n}x_n = b_1 \\ \vdots \\ a_{11}x_1 + a_{12}x_2 + \cdots + a_{1n}x_n = b_1 \end{array} \tag{2}$$

$$\left(\begin{array}{c} \left| \begin{array}{cc} a & b \\ c & d \end{array} \right| \\ e \\ f \end{array} \right)$$

$$x^n = \overbrace{x \times x \times \cdots \times x}$$

$$\overbrace{a + \underbrace{b + \overline{c + d}} + e}$$

$$\overbrace{a + \underbrace{b + c}_{123} + e}^{ab}$$

$$\frac{p(x_i|\mathbf{x}_{-i})}{1-p(x_i|\mathbf{x}_{-i})} = \theta_1 \sum_{i=1}^{m} x_i + \beta_1 \sum_{\mathrm{nbr}} x_i x_{i'} \tag{3}$$

$$\frac{p(x_i|\boldsymbol{x}_{-i})}{1-p(x_i|\boldsymbol{x}_{-i})} = \theta_1 \sum_{i=1}^{m} x_i + \beta_1 \sum_{\mathrm{nbr}} x_i x_{i'} \tag{4}$$

Test the above equation label in here (3).

$$\begin{aligned} (x+y)^2 &= x^2 + xy + yx + y^2 \qquad (5) \\ &= x^2 + xy + xy + y^2 \\ &= x^2 + 2xy + y^2 \qquad (6) \end{aligned}$$

$$\begin{aligned}(x+y)^2 &= x^2+xy+yx+y^2 \\ &= x^2+2xy+y^2\end{aligned} \tag{7}$$

$$\begin{aligned}(x+y)^2 &= x^2+xy+yx+y^2 \\ &= x^2+2xy+y^2\end{aligned}$$

$$\begin{multline}a+b+c+d+e+f+g+h+i+j+k+l= \\ x+y+z+a+b+c+d+e+f+g+o+s+t+ \\ u+v+w\end{multline}$$

Math italic $different$ is from *different*.

$$f(x) = \begin{cases} x & if x > 2 or if x < -2 \\ x & \text{if}x > 2\text{orif}x < -2 \\ x & \text{if}x > 2 \text{ or if } x < -2 \end{cases} \tag{8}$$

$\mathrm{Form\ e^{pdf}} + \phi(\mathrm{x})$

$\mathit{Form\ e^{pdf}} + \phi(\mathit{x})$

$\mathtt{Form\ e^{pdf}} + \phi(\mathtt{x})$

$\mathbf{Form\ e^{pdf}} + \phi(\mathbf{x})$

$\mathsf{Form\ e^{pdf}} + \phi(\mathsf{x})$

$\mathcal{ABC}$

$\mathbf{a} = (a_1, a_2, \ldots, a_n)^T$

$\boldsymbol{a = (a_1, a_2, \ldots, a_n)^T}$

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$\boldsymbol{a} = (a_1, a_2, \ldots, a_n)^T$

$\boldsymbol{aX + \beta + \gamma}$

$\boldsymbol{a}\boldsymbol{X} + \boldsymbol{\beta} + \boldsymbol{\gamma}$

$A \xrightarrow{f} B \xrightarrow{g} C$

$AAAAA$

$\dfrac{a+b}{c-d}$

$\frac{a+b}{a+b}$

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

$1 + \cfrac{1}{\textstyle 1+ \cfrac{1}{1 + \cfrac{1}{1 + \cfrac{1}{1 + + \cfrac{1}{1+x}}}}}$

$$\text{표준편차} = \sqrt{\text{분산}} = \sqrt{\frac{\text{편차}^2\text{의 합}}{\text{표본의 개수} - 1}} \tag{9}$$

$\int_0^\infty f(x)dx$

$\int\limits_0^\infty f(x)dx$

$\displaystyle\int\limits_0^\infty f(x)dx$

$\int_0^\infty f(x)dx$

$\displaystyle\int_0^\infty f(x)dx$

$\inf\sup_{n\to\infty} f_n(x)$

$$\inf_{n\to\infty}\sup f_n(x)$$

$$\overset{\text{woops}}{\underset{n\to\infty}{\inf\sup}} f_n(x)$$

$$\inf\sup{}^{\text{woops}}_{n\to\infty} f_n(x)$$