$\mathfrak{XITS\ Math}$

$$\pi(n) = \sum_{m=2}^{n} \left\lfloor \left(\sum_{k=1}^{m-1} \lfloor (m/k) \big/ \lceil m/k \rceil \rfloor \right)^{-1} \right\rfloor$$

$$\pi(n) = \sum_{k=2}^{n} \left\lfloor \frac{\phi(k)}{k-1} \right\rfloor$$

$$1 + \left(\frac{1}{1-x^2} \right)^3$$

$$1 + \left(\frac{1}{1 - \frac{\frac{x^2}{y^3}}{z^4}} \right)^3$$

$$\frac{a+1}{b} \bigg/ \frac{c+1}{d}$$

$$\left(\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} \right) \left| \phi(x+iy) \right|^2$$

$$\sum_{\substack{0 \le i \le m \\ 0 < j < n}} P(i,j)$$

$$\int_0^3 9x^2 + 2x + 4\,dx = 3x^3 + x^2 + 4x + C \Big]_0^3 = 102$$

$$e^{x+iy} = e^x(\cos y + i \sin y)$$

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

$$f(x) = \begin{cases} x, & \text{if } 0 \le x \le \frac{1}{2} \\ 1-x, & \text{if } \frac{1}{2} \le x \le 1 \end{cases}$$

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

$$\mathbf{S}^{-1}\mathbf{T}\mathbf{S}=\mathbf{dg}(\omega_1,\ldots,\omega_n)=\boldsymbol{\Lambda}$$

$$\Pr(\, m=n \mid m+n=3\,)$$

$$\sin 18^\circ = \frac{1}{4}(\sqrt{5}-1)$$

$$k = 1.38\times 10^{-16}\,\mathrm{erg}/^\circ\,\mathrm{K}$$

$$\bar{\Phi} \subset NL_1^*/N = \bar{L}_1^* \subseteq \cdots \subseteq NL_n^*/N = \bar{L}_n^*$$

$$I(\lambda) = \iint_D g(x,y) e^{i\lambda h(x,y)}\,dx\,dy$$

$$\int_0^1 \cdots \int_0^1 f(x_1,\ldots,x_n)\,dx_1\ldots dx_n$$

$$x_{2m} \equiv \begin{cases} Q(X_m^2 - P_2 W_m^2) - 2S^2 & (m \text{ odd}) \\ P_2^2(X_m^2 - P_2 W_m^2) - 2S^2 & (m \text{ even}) \end{cases} \pmod N$$

$$(1+x_1z+x_1^2z^2+\cdots)\ldots(1+x_nz+x_n^2z^2+\cdots) = \frac{1}{(1-x_1z)\ldots(1-x_nz)}$$

$$\prod_{j\ge 0}\left(\sum_{k\ge 0} a_{jk}z^k\right) = \sum_{n\ge 0} z^n \left(\sum_{\substack{k_0,k_1,\ldots\ge 0\\ k_0+k_1+\cdots=n}} a_{0k_0}a_{1k_1}\ldots\right)$$

$$\sum_{n=0}^{\infty} a_n z^n \qquad \text{converges if} \qquad |z| < \left(\limsup_{n\to\infty} \sqrt[n]{|a-n|}\right)$$

$$\frac{f(x+\Delta x)-f(x)}{\Delta x} \to f'(x) \qquad \text{as } \Delta x \to 0$$

$$\|u_i\| = 1, \qquad u_i \cdot u_j = 0 \quad \text{if } i \ne j$$

$$\prod_{k\ge 0} \frac{1}{(1-q^k z)} = \sum_{n\ge 0} z^n \Bigg/ \prod_{1\le k\le n} (1-q^k). \tag{16'}$$

$$
\begin{aligned}
T(n) \le T(2^{\lceil \lg n \rceil}) &\le c(3^{\lceil \lg n \rceil} - 2^{\lceil \lg n \rceil}) \\
&< 3c \cdot 3^{\lg n} \\
&= 3cn^{\lg n}
\end{aligned}
$$

$$
\begin{aligned}
P(x) &= a_0 + a_1 x + a_2 x^2 + \cdots + a_n x^2, \\
P(-x) &= a_0 - a_1 x + a_2 x^2 - \cdots + (-1)^n a_n x^2.
\end{aligned} \tag{30}
$$

$$
\gcd(u, v) = \gcd(v, u); \tag{9}
$$

$$
\gcd(u, v) = \gcd(-u, v). \tag{10}
$$

$$
\begin{aligned}
\left(\int_{-\infty}^{\infty} e^{-x^2} \, dx \right)^2 &= \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} e^{-(x^2+y^2)} \, dx \, dy \\
&= \int_0^{2\pi} \int_0^{\infty} e^{-r^2} r \, dr \, d\theta \\
&= \int_0^{2\pi} \left(-\frac{e^{-r^2}}{2} \bigg|_{r=0}^{r=\infty} \right) d\theta \\
&= \pi.
\end{aligned} \tag{11}
$$