

$$\pi=3.14159265358979323846264338327950288419716939937510582097494459230781640$$

$$\frac{d}{dx}\ln(g(x))=\frac{g'(x)}{g(x)}\quad |G|=\sum[G:G_{s_i}]\quad \int \cos x\,dx=\sin x+C\quad (A-\lambda I)x=0\quad F_n=F_{n-1}+F_{n-2}$$

$$|\langle x,y\rangle|^2\leq \langle x,x\rangle\cdot \langle y,y\rangle\quad \oint_C f(z)\,dz=2\pi i\sum \operatorname{Res}(f(z),z_k)\quad \sum\binom{n}{j}\binom{m}{k-j}=\binom{m+n}{k}$$

$$P\rightarrow Q\equiv\neg Q\rightarrow\neg P$$

$$\frac{d}{dx}f(x)=\lim_{h\rightarrow 0}\frac{f(x+h)-f(x)}{h}\quad a^{p-1}\equiv 1\pmod{p}\quad (x+y)^p\equiv x^p+y^p\pmod{p}\quad \frac{d}{dx}\csc x=-\csc x\cot x$$

$$x^2\frac{d^2y}{dx^2}+x\frac{dy}{dx}+(x^2-\alpha^2)y=0\quad \frac{\partial^2 f(x,y)}{\partial x\partial y}=\frac{\partial^2 f(x,y)}{\partial y\partial x}\quad f(a)=\frac{1}{2\pi i}\oint_{\mathcal{C}}\frac{f(z)}{z-a}\,dz\quad G/H=\{gH\mid g\in G\}\quad \mathbb{Z}/2\mathbb{Z}$$

$$\binom{n}{k}=\frac{n!}{k!(n-k)!}\quad \chi(n)$$

$$\phi(n)=n\prod\left(1-\frac{1}{p}\right)$$

$$\sum_{n=0}^{\infty}ar^n=\frac{a}{1-r}$$

$$J_f=\frac{\partial \vec{f}}{\partial \vec{x}}\,a^2+b^2=c^2$$

$$\mathbb{F}_{p|n}$$

$$f(x)=\sum_{n=0}^{\infty}\frac{f^{(n)}(a)}{n!}(x-a)^n$$

$$V-E+F=2$$

$$\int_{\partial\Omega}\omega=\int_{\Omega}d\omega\quad \aleph_0$$

$$a\cdot b=\|a\|\|b\|\cos\theta$$

$$\int_{-\infty}^{\infty}e^{-x^2}\,dx=\sqrt{\pi}$$

$$\lambda x.(\sum n)^2=\sum n^3$$

$$e^{\pi i}+1=0\quad A\cup\overline{A}=U$$

$$\Box(\Box P\rightarrow P)\rightarrow P$$

$$\det \exp A = \exp \operatorname{tr} A$$

$$e^x=\sum\frac{x^n}{n!}\quad G\lim_{x\rightarrow 0}\frac{\sin x}{x}=1\quad \mathbb{R}$$

$$p_A(A)=0_\pi\quad f\colon GL_2(\mathbb{R})$$

$$K_4\triangleleft S_4\quad D_8<S_4$$

$$57\,\mathcal{U}\,G/H\overset{\exists !\bar{f}}{\longrightarrow}G'\circ=\pi R^2$$

$$\operatorname{Im}(f_i)=\ker(f_{i+1})\quad M_p=2^p-1$$

$$|\mathcal{O}(x)|=[G\colon G_x]\quad FA\cong\bigotimes\mathbb{Z}/p_i^{e_i}\mathbb{Z}$$

$$t_n=n^{n-2}\quad \forall \varepsilon>0\exists \delta>0$$

$$A=LDU\quad E=mc^2$$

$$\zeta(s)=\sum_{n=1}^\infty \frac{1}{n^s}$$

$$\omega_1\times[0,1)\quad G_\delta=\cap U_i$$

$$0\rightarrow G\rightarrow H\rightarrow K\rightarrow 0$$

$$\sum k^2=\frac{n(n-1)(2n-1)}{6}$$

$$\nabla=\left(\frac{\partial}{\partial x_1},\cdots,\frac{\partial}{\partial x_n}\right)$$

$$\Gamma(z)=\int t^{z-1}e^{-t}\,dt$$

$$\sum_{n=1}^{\infty}\frac{1}{n^2}=\frac{\pi^2}{6}\quad \delta(x)$$

$$\sin^2x+\cos^2x=1$$

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

$$\varphi=1.61803398874$$

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

$$\sum_{i=1}^n i=\frac{n(n+1)}{2}$$

$$\sum_{k=0}^n e^{\left(\frac{2\pi i k}{n}\right)}=1$$

$$\mathbb{Q}\quad \mathbb{R}$$

$$\|fg\|_1\leq\|f\|_p\|g\|_q$$

$$\mathbb{C}$$

$$\|\vec{x}\|_p:=\left(\sum_{i=1}^n|x_i|^p\right)^{1/p}$$

$$\frac{x}{e^x-1}=\sum_{0\leq n}\frac{B_nx^n}{n!}$$

$$a^2-b^2=(a+b)(a-b)$$

$$(f*g)(t):=\int_{-\infty}^{\infty}f(\tau)g(t-\tau)\,d\tau\quad 1/2\square=\triangle$$

$$\pi(n)\sim\frac{n}{\log n}\quad \mathcal{L}\{f\}(s)=\int_0^\infty f(t)e^{-st}\,dt$$

$$\frac{d}{dx}f(g(x))=f'(g(x))g'(x)$$

$$\binom{p}{q}\binom{q}{p}=(-1)^{\frac{p-1}{2}\frac{q-1}{2}}\quad H=-\sum p(x)\log p(x)$$

$$(\wp')^2=\wp^3-60G_4\wp-140G_6\quad \uparrow=\{0|\ast\}$$

$$e=2.718281828459045235360287471$$

