一则奇妙的数学八卦

上页 下页 返回

以下一则引自科学网之科学博客　　　(2013 – 06)

The Royal Australian Air Force last week published an impressively complicated maths formula online. It invited engineers to solve the problem to find a phone number to call and apply for a job. Defence Force recruiters obtained the formula from a University of Melbourne professor. Business Insider Australia understands it was intended as a means of driving engagement, and not a formal test. The formula involves infinite sums, integrals, complicated trigonometry and imaginary numbers.

上页　下页　返回

If you have what it takes to be an engineer in the Air Force call the number below.

$$\tfrac{9}{3} + 2^{13} + 14^3 + 5 + \left(\sinh x - \sum_{k=0}^{\infty} \frac{x^{2K+1}}{(2K+1)!}\right) \cdot \int_0^{12}\int_0^{4} \left(x^2y^3 + y^{\frac{1}{2}}x^3 + (y+1)^6\right) dx\, dy$$

$$+ \left(\int_0^{\pi} \sin x\, dx - 2\right) \cdot \int_{-6}^{6}\int_{-6}^{6} (x+y)(x-y)\, dx\, dy + \left(\tfrac{1}{2} + \frac{i\,\mathrm{Log}(-1)}{2}\right) \cdot \sqrt{3^2 + 72!}$$

$$+ \left(\sum_{k=1}^{\infty} \frac{1}{k^2} - \frac{\pi^2}{6}\right) \cdot \int_{-2}^{6} (x^4 + 3x^4 + 2x^{-2})\, dx + \left(\sum_{k=0}^{\infty} \frac{1}{k!} - e\right) \cdot \int_4^5 (y^5 + y^4 + y^3 + y^2 + y)\, dy$$

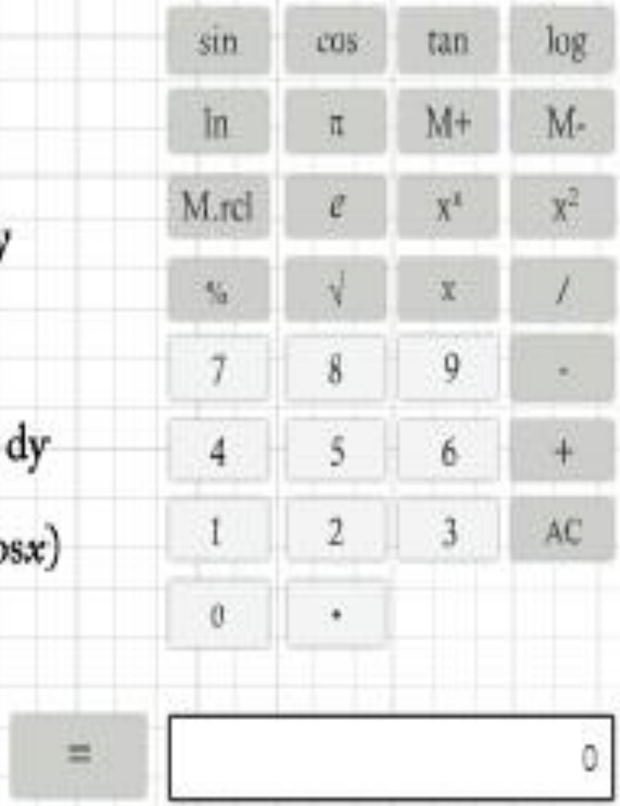
$$+ \left(\cos x - \sum_{k=0}^{\infty} \frac{(-1)^k}{(2k)!} x^{2k}\right) \cdot \sum_{k=22}^{20} \frac{(1+k^2)}{(1-k)} 2^k 3^{-k} + \left(2 - \sum_{k=0}^{k=\infty} \frac{1}{2^k}\right) \cdot (3^2 + 4^3 + 5^4)^{16}$$

$$+ \left(\cos x - \frac{e^{ix} + e^{-ix}}{2}\right) \cdot \frac{(4^6 + 3^2)^3 (2^3 + 3^{-3})^2}{131{,}901} + (\cot^2 x + 1 - \operatorname{cosec}^2 x) \cdot \int_4^2\int_1^6 4xy^{\frac{1}{2}}\, dx\, dy$$

$$+ (1 + \tan^2 x - \sec^2 x) \cdot \int_{-2}^{2}\int_{-2}^{2} (3\,xy^2 + 2\,x^2y^4 + 3x)\, dx\, dy + (\sin^2 x - 2\sin x \cos x)$$

$$+ \left(\sum_{k=0}^{\infty} \frac{(-1)^k}{(2k-1)!} x^{2k+1} - \sin x\right) \cdot \int_4^5 (x^5 + x^4 + x^3 + x^2 + x)\, dx + \left(\sum_{k=0}^{\infty} \frac{1}{k!} - e\right) \cdot 53^{42}$$

$$+ \left(\sum_{k=0}^{\infty} \frac{1}{k!} - e\right) \cdot \int_4^5 (y^5 + y^4 + y^3 + y^2 + y)\, dy + \left(\cosh x - \sum_{k=0}^{\infty} \frac{x^{2k}}{(2k)!}\right) \cdot (3^{\frac{1}{2}} + 5^{\frac{1}{2}})^2$$



If you have what it takes to be engineer in the Air Force call the number below.

$$\frac{9!}{3}+2^{13}+14^{3}+5+\left(\sinh x-\sum_{0}^{\infty}\frac{x^{2n+1}}{(2n+1)!}\right)\int_{0}^{12}\int_{0}^{4}\left(x^{2}y^{3}+x^{3}y^{\frac{1}{x}}+(1+y)^{6}\right)dxdy$$

$$+\left(\int_{0}^{\pi}\sin x\,dx-2\right)\int_{-6}^{6}\int_{-6}^{6}(x+y)(x-y)dxdy+\left(\frac{\pi}{2}+\frac{iLog(-1)}{2}\right)\sqrt{3^{2}+72!}$$

$$+\left(\sum_{1}^{\infty}\frac{1}{n^{2}}-\frac{\pi^{2}}{6}\right)\int_{-2}^{6}\left(2x^{-2}+4x^{4}\right)dx+\left(\sum_{0}^{\infty}\frac{1}{n!}-e\right)\int_{4}^{5}\left(y+y^{2}+y^{3}+y^{4}+y^{5}\right)dy$$

$$+\left(\cos x-\sum_{0}^{\infty}\frac{(-1)^{n}}{(2n)!}x^{2n}\right)\left(\sum_{n=30}^{30}\frac{1+n^{3}}{(1-n)!}\left(\frac{2}{3}\right)^{n}\right)+\left(2-\sum_{0}^{\infty}\frac{1}{2^{n}}\right)\left(3^{2}+4^{3}+5^{4}\right)^{\frac{1}{x}}$$

$$+\left(\cos x-\frac{e^{ix}+e^{-ix}}{2}\right)\frac{\left(4^{6}+3^{2}\right)^{3}\left(2^{3}+3^{-2}\right)^{2}}{131901}+\left(\cot^{2}x+1-\csc^{2}x\right)\int_{4}^{2}\int_{1}^{6}\left(4xy^{\frac{1}{2}}\right)dxdy$$

$$+\left(\tan^{2}x+1-\sec^{2}x\right)\int_{-2}^{2}\int_{-2}^{2}\left(3xy^{2}+2x^{2}y^{4}+3x\right)dxdy+\left(\sin^{2}x-2\sin x\cos x\right)$$

$$+\left(\sum_{0}^{\infty}\frac{(-1)^{n}}{(2n-1)!}x^{2n+1}-\sin x\right)\int_{4}^{5}\left(x+x^{2}+x^{3}+x^{4}+x^{5}\right)dx+\left(\sum_{0}^{\infty}\frac{1}{n!}-e\right)53^{42}$$

$$+\left(\sum_{0}^{\infty}\frac{1}{n!}-e\right)\int_{4}^{5}\left(y+y^{2}+y^{3}+y^{4}+y^{5}\right)dy+\left(\cosh x-\sum_{0}^{\infty}\frac{x^{2n}}{(2n)!}\right)\left(3^{\frac{1}{3}}+5^{\frac{3}{2}}\right)^{2}=?$$

If you have what it takes to be engineer in the Air Force call the number below.

$$\frac{9!}{3}+2^{13}+14^3+5+\left(\sinh x-\sum_0^\infty \frac{x^{2n+1}}{(2n+1)!}\right)\int_0^{12}\int_0^4\left(x^2y^3+x^3y^{\frac{1}{x}}+(1+y)^6\right)dxdy$$

$$+\left(\int_0^\pi \sin x dx-2\right)\int_{-6}^6\int_{-6}^6(x+y)(x-y)dxdy+\left(\frac{\pi}{2}+\frac{i\log(-1)}{2}\right)\sqrt{3^2+72!}$$

$$+\left(\sum_1^\infty \frac{1}{n^2}-\frac{\pi^2}{6}\right)\int_{-2}^6\left(2x^{-2}+4x^4\right)dx+\left(\sum_0^\infty \frac{1}{n!}-e\right)\int_4^5\left(y+y^2+y^3+y^4+y^5\right)dy$$

$$+\left(\cos x-\sum_0^\infty \frac{(-1)^n}{(2n)!}x^{2n}\right)\left(\sum_{n=30}^{30}\frac{1+n^3}{(1-n)!}\left(\frac{2}{3}\right)^n\right)+\left(2-\sum_0^\infty \frac{1}{2^n}\right)\left(3^2+4^3+5^4\right)^{\frac{1}{x}}$$

$$+\left(\cos x-\frac{e^{ix}+e^{-ix}}{2}\right)\frac{\left(4^6+3^2\right)^3\left(2^3+3^{-2}\right)^2}{131901}+\left(\cot^2 x+1-\csc^2 x\right)\int_4^2\int_1^6\left(4xy^{\frac{1}{2}}\right)dxdy$$

$$+\left(\tan^2 x+1-\sec^2 x\right)\int_{-2}^2\int_{-2}^2\left(3xy^2+2x^2y^4+3x\right)dxdy+\left(\sin 2x-2\sin x\cos x\right)$$

$$+\left(\sum_0^\infty \frac{(-1)^n}{(2n+1)!}x^{2n+1}-\sin x\right)\int_4^5\left(x+x^2+x^3+x^4+x^5\right)dx+\left(\sum_0^\infty \frac{1}{n!}-e\right)53^{42}$$

$$+\left(\sum_0^\infty \frac{1}{n!}-e\right)\int_4^5\left(y+y^2+y^3+y^4+y^5\right)dy+\left(\cosh x-\sum_0^\infty \frac{x^{2n}}{(2n)!}\right)\left(3^{\frac{1}{3}}+5^{\frac{3}{2}}\right)^2=131901$$

澳大利亚皇家空军闹了一个大红脸，它的招募广告要求工程师申请者破解一个数学题目后给他们打电话，但数学问题由于两处输入错误而无解。数学公式里有两处写错了，如果用 $\sin(2x)$ 替代 $\sin^2 x$（倒数第三行），$(2k+1)!$ 替代 $(2k-1)!$（倒数第二行）后，那么公式能成立，否则无解。皇家空军承认并修正了错误，并对识别出错误的**Reddit**用户说，你们就是我们想要找的人。