

# Some maths

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Experimentations in L<sup>A</sup>T<sub>E</sub>X

I hereby decree the following:

$$1 + 2 = 3$$

$$1 = 3 - 2$$

$$\begin{aligned} 1 + 2 &= 3 \\ 1 &= 3 - 2 \end{aligned}$$

$$\begin{aligned} f(x) &= x^2 \\ g(x) &= \frac{1}{x} \\ F(x) &= \int_b^a \frac{1}{3}x^3 \end{aligned}$$

$$\frac{1}{\sqrt{x}}$$

$$\begin{array}{cc} 1 & 0 \\ 0 & 1 \end{array}$$

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$\left(\frac{1}{\sqrt{x}}\right)$$

$$\lambda\Lambda\alpha\epsilon\delta\Delta$$

Let

$$\begin{aligned} E &= \frac{\sigma}{\epsilon} \\ \sigma &= \frac{F}{A} \\ \epsilon &= \frac{x}{l_0} \\ \Rightarrow E &= \frac{Fl_0}{Ax} \text{ in } Nm^{-2} \end{aligned}$$

Given that

$$\begin{aligned} n &= 2k + 1 \\ M &= n^2 \\ \Rightarrow M &= (2k + 1)^2 = 4k^2 + 4k + 1 \\ \Rightarrow M &= 4(k^2 + k) + 1 \\ \Rightarrow M &= 4q + 1 : q \in \mathbb{Z} \\ \Rightarrow M &= 1 \pmod{4} \end{aligned}$$

Cardinality something something pope  $\aleph_0$

$$A_{circle} = \pi r^2$$

$$\vec{BC} = \vec{OC} - \vec{OB}$$

$$\begin{aligned} &\int_a^b x^2 dx \\ &\sum_{n=1}^\infty 2^{-n} = 1 \\ &\prod_{i=a}^b f(i) \\ &\lim_{x \rightarrow \infty} f(x) \end{aligned}$$

Integral  $\int_a^b x^2 dx$  inside text

Improved integral  $\int_a^b x^2 dx$  inside text

Sum  $\sum_{n=1}^\infty 2^{-n} = 1$  inside text

Improved sum  $\sum_{n=1}^\infty 2^{-n} = 1$  inside text