

Calculation of Finagle's Constant

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1 Procedure

We incautiously apply operations we don't understand to an equation we don't understand, then divide the result obtained from our calculation by the known answer to obtain Finagle's constant.

Multiplying our experimental result by Finagle's constant then gives the correct answer!

2 Mathematical Snow-job

We used the method of integration by parts to calculate the value of 1. Since we can multiply or divide any number by 1 without changing the result, this should be useful.

Start with the following integral:

$$\int \frac{1}{x} dx \tag{1}$$

We then use integration by parts with $u \equiv \frac{1}{x}$ and $dv \equiv dx$:

$$\begin{aligned} \int \frac{1}{x} dx &= \frac{1}{x}x - \int -\frac{1}{x^2}x dx \\ &= 1 + \int \frac{1}{x} dx \\ 0 &= 1 \end{aligned} \tag{2}$$

3 Conclusions

As shown in section 2, $1 = 0$. We previously noted that division by 1 does not change the result, so since $1 = 0$ we can divide by zero as well. Division

by zero gives an undefined answer, so when faced with an answer that does not seem to match what we expect, we simply divide by 1 (zero, in this case) and then re-define the result to be correct.

4 Attributions

The author would like to express his gratitude to Dr. Steve Waters¹ for introducing the derivation of equation 2.

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