Mathematics 2200H – Mathematical Reasoning

TRENT UNIVERSITY, Fall 2023

Assignment #τ

Equation Limericks

Due on Monday, 30 October.[*]

A limerick is a poem with five lines. The first, second, and fifth lines should have nine syllables each and rhyme with each other, and the third and fourth should have six syllables each and rhyme with each other. It is common to mangle spelling, pronunciation, and grammar when composing limericks in English. A fairly well-known example of a limerick, relating to physics, is the following:

> There was a young lady named Bright,
> Who traveled much faster than light.
> She started one day
> In the relative way,
> And returned on the previous night.
>
> *By Hellen Barton Tuttle, or A.H. Reginald Buller, F.R.S., or Anonymous ...*

An obscure subtype of the limerick is the equation limerick, which states an equation. Examples:

$$\left(12 + 144 + 20 + 3 \cdot \sqrt{4}\right) / 7 + 5 \cdot 11 = 9^2$$

> a dozen, a gross, plus a score
> plus three times the square root of four
> divided by seven
> plus five times eleven
> is nine squared (and not a bit more)
>
> *Posted to* `sci.math` *by Rajeev Krishnamoorthy in 1992.*

$$\int_1^{3^{1/3}} t^2\,dt \cdot \cos\left(\tfrac{3\pi}{9}\right) = \log\left(\sqrt[3]{e}\right)$$

> The integral tee squared dee tee
> From one to the cube root of three
> Times the cosine
> Of three pi over nine
> Is the log of the cube root of e.
>
> *Posted to* `sci.math` *by Gerald A. Edgar in 1992. (Slightly edited.)*

$$\ln\left(e^4\right)\left(\sqrt{1024}\right) + 6(12) - 8(23) = 16$$

> The lon of e to the four
> Times the square root of ten twenty-four
> Adding six dozen please
> Minus eight twenty-three's
> Is sixteen, case is closed, shut the door.
>
> *Chris Cole, a MATH 110Y student in 2002-2003.*

1. Write an *original* equation limerick. The equation must be correct and completely described by the limerick! You may use multiple limericks for a sufficiently complex equation. *[10]*

NOTE: This is an extra assignment which would give you a larger pool from which the best ten are chosen to count towards the final mark. Really, though, it's just to have something fun to do over Reading Week! :-) Also, $\tau = 2\pi$.

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[*] Please submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If submission on Blackboard fails, please submit your solutions to the instructor on paper or via email to `sbilaniuk@ trentu.ca` .