

# Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals (Section C)

TRENT UNIVERSITY, Fall 2021

## Assignment # $\pi$ Equation Limericks

*Due on Tuesday, 2 November.*

**Submission:** Scanned or photographed handwritten solutions are fine, so long as they are legible. Submission as a single pdf is strongly preferred, but other common formats are probably OK. (If not, we'll get back to you! :-) Please submit your solutions via Blackboard's Assignments module. If that fails, please email your solutions to the instructor at: [sbilaniuk@trentu.ca](mailto:sbilaniuk@trentu.ca)

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 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:

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

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. This is probably the best known equation limerick and has been attributed to Leigh Mercer, who was apparently a beggar in London, England, that was also an amateur mathematician of some note.*

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

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.)*

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

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! [10]

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