

Mathematics 1101Y – Calculus I: Functions and calculus of one variable

TRENT UNIVERSITY, 2012–2013

Assignment # π

Equations = Limericks?!

Due on Monday, 7 January, 2013.

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 lines should have six syllables each and rhyme with each other. (So we have an *aabba* rhyming scheme.) Limericks are usually intended to be funny, and spelling, pronunciation, and grammar are often mangled a little – or more! – when composing limericks in English. A famous example of a limerick, having, like most limericks, nothing to do with mathematics, is the following:

There once was a man from Nantucket
Who kept all his cash in a bucket.
But his daughter, named Nan,
Ran away with a man
And as for the bucket, Nantucket.

From the *Princeton Tiger*, November 1902, p. 59.

A rare subspecies of the limerick is the equation limerick, which states a (correct!) equation. Here are two, the second using calculus:

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

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.

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

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.*]

1. Write an *original* equation limerick. The more sophisticated and complex the equation, the better. The equation must be correct! [10]

HAVE A GREAT BREAK!