

Mathematics 3810H – Ancient and classical mathematics

(Formerly Mathematics 381H)

TRENT UNIVERSITY, Fall 2009

Assignment #2

Due on Friday, 9 October, 2009

Plimpton 322 is a cuneiform tablet with a table of integers written on it. There is a picture of it in the text, Figure 2-1 on page 48, and a little discussion of it on page 63. Several theories have been advanced as to what it is really about, only one of which makes it into the text. For this assignment, you will need to read *Words and Pictures: New Light on Plimpton 322* by Eleanor Robson (*American Mathematical Monthly* **109** (2002), pp. 105–120). You can read or download this article (in pdf format) from the Mathematical Association of America's web site at:

<http://www.maa.org/news/monthly105-120.pdf>

For more detail, you can also try *Neither Sherlock Holmes nor Babylon: a reassessment of Plimpton 322* by Eleanor Robson (*Historia Mathematica* **28** (2001), pp. 167–206). Bata Library has copies of this journal on paper through 2001 and it is available electronically through the Library's e-journal services.

1. Describe in detail the three major interpretations of Plimpton 322, as described by Robson. [4]
2. Summarize the arguments Robson gives for and against each interpretation. [4]
3. In your opinion, is Robson correct in her conclusions? Why or why not? [2]

Equation Limericks

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

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 on 1992.04.23.

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

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.

A slight variation of a limerick posted to `sci.math` by Gerald Edgar on 1992.04.17 (just the equation) and 1992.04.21 (with the words).