Mathematics 3830H – A Survey of the History of Mathematics TRENT UNIVERSITY, Winter 2025

Assignment #2 Wedging Knowledge Due on Friday, 24 31 January.*

Plimpton 322 is a cuneiform tablet with a table of numbers written on one side. (The other side is blank.) There are several theories as to what it really means, a couple of which are discussed in Words and Pictures: New Light on Plimpton 322 by Eleanor Robson (American Mathematical Monthly 109 (2002), pp. 105–120). A copy of this article is attached to the assignment on Blackboard. You can also find this article in the JSTOR archive (which should be accessible via Bata Library) at: www.jstor.org/stable/2695324 For a more detailed version of Robson's analysis, you can also try Neither Sherlock Holmes nor Babylon: a reassessment of Plimpton 322 by Eleanor Robson (Historia Mathematica 28 (2001), pp. 167–206). This journal should also be available via Bata Library.

Another theory concerning the table of numbers on the tablet was proposed a few years ago in *Plimpton 322 is Babylonian exact sexagesimal trigonometry* by Daniel F. Mansfield and N.J. Wildberger. (*Historia Mathematica* **41** (2017), pp. 395–419.) A copy of this paper is attached to the assignment on Blackboard as well, and can also be found online at: www.sciencedirect.com/science/article/pii/S0315086017300691

1. Describe the major interpretations of Plimpton 322, as described in the two papers mentioned above, and summarize the arguments for and against each. In your opinion, which interpretation is most likely to be correct? Explain why you think so. [5]

Read and consider (at least) the part of Plato's *Meno* from page 10 through page 15 of the translation by Cathal Woods, which is also attached to this assignment on Blackboard. The original can be found at papers.ssrn.com. (You'll need to search for the author on that site and take it from there.)

- 2. Summarize the geometric problem and its solution that Socrates leads Meno's slave through. Is this solution complete and correct? [4]
- **3.** What is Socrates trying to do in this passage, besides obtaining the mathematical result? [1]

^{*} Please submit your solutions, preferably as a single pdf, via Blackboard's Assignments module. If that fails, please submit them to the instructor on paper or via email to sbilaniuk@trentu.ca as soon as you can.