

Mathematics 3820H – Mathematics from medieval to modern times

TRENT UNIVERSITY, Fall 2012

Assignment #9

Due on Tuesday, 20 November, 2012.

Read pp. 54-70 & 144-157 of [1] and then answer *one* (1) of **1** or **2**:

1. Summarize Euler's argument for the existence of irrational square roots in Part I, Section I, Chapter XII (p. 54 on) and assess to what extent it is rigorous. [10]
2. Describe the method given by Euler in Part I, Section II, Chapter IX (p. 155 on) for computing cube roots in modern terms, and use it to find the cube root of 19683. [10]

REFERENCE

1. *Elements of Algebra* (2nd Edition), Vol. I, by Leonard Euler (trans. by ?, London, 1810), which can be found online (pdf) at:
<http://books.google.ca/books?id=hqI-AAAAYAAJ>

Numbers

A number will find
fulfillment enough
in knowing its mind
and doing its stuff.

Piet Hein