

Math 145 (revised 12/2006)

2nd Out of Class Essay

- 3 to 5 pages, typed, double spaced with a page of explanatory illustrations either spread through the text or as a separate sheet. Title your illustrations so that it is easy to know which one you are referring to in the text of your paper. Use MLA style citations.
- Choose one of the two following essays:
 - The Platonic Solids
 - Define and name the Platonic Solids
 - Explain how the video determined that there were not any more Platonic Solids.
 - Explain how the Euler Characteristic Theorem verifies that there are not any more Platonic Solids.
 - Explain the concept of duality of Platonic Solids and how it is related to the number of faces and the number of vertices.
 - Multiple Infinities
 - Write a letter convincing a skeptical friend that infinity does indeed come in different sizes. Convince him/her that there are indeed more real numbers than natural numbers. Furthermore, convince him/her that there are sets larger than the set of real numbers.
 - With in your letter use good mathematical vocabulary, define the ideas of cardinality, one-to-one relationship, diagonalization method (Cantor) and discuss at least different three sizes of infinity.