

Math 189: Midterm Project 2

Romano-British Pottery Data

Working alone, prepare a R Markdown Notebook report based on examining the Romano-British Pottery dataset (available from GitHub). The dataset contains measurements on pottery shards that were collected from five sites in the British Isles. Note: in class we focused on four of the sites, corresponding to Kiln equaling 2, 3, 4, or 5. Here you will also study Kiln site 1 (which corresponds to “Gloucester”). The dataset contains 48 observations on 9 chemical variables:

1. Al₂O₃: aluminium trioxide
2. Fe₂O₃: iron trioxide
3. MgO: magnesium oxide
4. CaO: calcium oxide
5. Na₂O: sodium oxide
6. K₂O: potassium oxide
7. TiO₂: titanium oxide
8. MnO: manganese oxide
9. BaO: barium oxide

Analysis

Is there a significant difference among the 5 group means for these 9 variables? Formulate the appropriate null hypothesis; choose a method of analysis (from the techniques discussed in class, using material up through Lecture 12); discuss the assumptions needed (and justify those assumptions, if possible); perform the analysis using R code (if you use a package, it is your responsibility to ensure their code does what you intend it to do); summarize the results with appropriate displays (figures and/or tables).

Components to Your Report

This is your report, but consider including the following:

1. Introduction, Body, and conclusion.
2. Data citation.
3. Any relevant tools learned in lectures 1 through 12.
4. Justify your analysis.

Ethics

Work alone!!!

Submission

Write an rmd file, render to pdf and submit the pdf.