Math 417: Extra Credit Assignment

Due Friday, December 1, 2023

This assignment asks you to invent an abstract algebra problem that could be on the final exam for this course. The purpose of this assignment is to give you a chance to think about the material from a different perspective: What question would you ask to see if someone understands an idea from abstract algebra?

Formal requirements:

- Your problem needs to make sense in the context of this course, and needs to be related to the course material. You can pick some idea from the course (for instance, Lagrange's theorem) and then write a problem that tests some aspect of that idea.

- You need to **submit both a problem statement and a solution** for your problem.

- Please submit by email to `jpascale@illinois.edu` by December 1, 2023, or submit on paper to my mailbox in 250 Altgeld Hall by that date.

- Students who complete this assignment will receive up to a 2% bonus on their final grade.

Other than that, there are no other requirements. Your problem can be easy or difficult, it can come from the start of the course or the end, it can be a "standard" problem or it can be very inventive.

My intention is to make the problems and solutions available to the entire class prior to the final exam as a study aid. If there are suitable submissions, I may even include one or more of the submitted problems on the final exam itself.

Please feel free to email me at `jpascale@illinois.edu` with any questions or concerns about this assignment.