Math 582   Teaching Core College Mathematics   Winter 2021

Instructor   Amites Sarkar

Text   How to Solve It
                       George Pólya

Course content

This course has two purposes: to help you pass the graduate qualifying exam in March, and to prepare you to teach courses in calculus and linear algebra. These are very different goals, but for both of them you will require:

• A thorough understanding of the material

• Problem solving strategies

• The ability to present a mathematical argument clearly and precisely

You will have two assignments each week. First, I will assign three questions from past qualifying exams for you to solve, and possibly present in class. Second, you will have to read either an essay (see below – you can start now if you like), or part of Pólya's book. Class time will be split between lectures (given by me) and presentations (given by you).

Essays

N. Baker, Wrong answer: the case against Algebra II, *Harper's Magazine*, September 2013.

U. Dudley, What is mathematics for?, *Notices Amer. Math. Soc.* **57** (2010), 608–613.

P. Lockhart, A Mathematician's Lament, available at
`http://www.maa.org/external_archive/devlin/LockhartsLament.pdf`

Office hours

My office hours are 1–1:30pm on Mondays, Tuesdays, Thursdays and Fridays, via Zoom.