MA111: Contemporary mathematics

Jack Schmidt

University of Kentucky

August 24, 2011

Schedule:

- HW 0A is due Friday, Aug 26th, 2011.
- HW 0B is due Wednesday, Aug 21st, 2011.
- HW 1A is due Friday, Sep 2nd, 2011.
- Exam 1 is Monday, Sep 12th, during class.
- University Bookstore in Student Center still has (many) books

Today we will discuss social choice theory, or more simply looking at what "ranking from least favorite to most favorite" forces to happen.

What is contemporary mathematics?

- It's the study of math that is used every day, not to help lead you into a harder course of math. It can also help you save money with certain deals, and can help you sort out treasure between paranoid pirates that may someday threaten you.
- Apart from being completely agonizing, contemporary mathematics is a more modern study of mathematical components that you would have to use in everyday life. Contemporary mathematics, to me, is making sense out of all the mathematical formulas and theorems we've studied over the years and applying them to real-life problems, making the math more complex than letters and numbers and solving for "x", but also making more sense, and USE, out of it.
- For the first few chapters, I like to think of math as strategy. We analyze the rules to find a winning strategy.

Social Choice Theory

- This is sometimes offered as PS491/PS711
- Write down your ranking from least favorite to most favorite of:
 - Chocolate
 - Strawberry
 - Cookies-N-Creme
- Form groups of 8-10 (first three rows/last three rows; left side/right side)
- Summarize your group's rankings and prepare to present on board
- Should be brief, but not ignore anyone nor give undue weight

• Let's count how many people had each ranking in the whole class

- Let's count how many people had each ranking in the whole class
- In groups of 3-5 answer the following questions and prepare to present:
 - Did we get all possible rankings?
 - 2 How many should there be?
 - 3 How many rankings of four flavors would there be?

Homework

- Participation (15%): There is a quiz on blackboard, under **Assignments**. Should do it today. Due by Sunday.
- Read section 1.1 of the textbook.
- Online homework (30%):
 - 0A is due Today.
 - 0B is due Wednesday.
 - 1A is due next Friday. Should do it today.