

Day 18 Plan (October 12): MTHT 400
Methods of Teaching Secondary Mathematics I
FALL 2004

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Rethinking Patterns

Form groups: Erin, Nez, John; Dan, Wayne, Mais, Elizabeth; Malgorzata, Christina, Jullienne, Israel; Wei, Michelle, Scott, Majda

Group instructions: Make sure everyone knows what all the words in the questions mean.

Some teachers object to the ‘tyranny of homework’. Every class splits into reviewing yesterday’s homework and assigning today’s. How can such a format be useful?

1. Is there a difference between saying the pattern for the checkerboard problem is the sum of the squares and providing a closed form for the sum of the squares.
2. What were different ways of interpreting the problem that led to difficulty on Problem 2A?
3. What kinds of activities are suitable for or perhaps require groupwork? Would it have been better to introduce the line problem as group activity? Why?
4. What, if anything would change if we replace ‘circle’ by square in problem 2B.
5. Consider your examples for Problem 3. Try to clarify the notion of a ‘well-posed’ problem.
6. What is wrong with ‘proof by example’? What is the difference between ‘proof by example’ and a ‘plausibility argument’?
7. The two exams from last semester are posted on the web; they will give you some idea of the kind of questions that might appear on the midterm. I expect that some problems will be extremely similar and some of similar style but very different.