

**Math 130
Fall 2003
Borkovitz**

Reflection #2: The Staircase Problem

This assignment is due on Tuesday October 7. Please bring a draft of the assignment to class on Friday October 3, when you and your classmates will have the opportunity to give and get feedback on each other's papers.

This assignment gives you an opportunity to reflect on your work from the past few classes and to practice mathematical communication. The assignment will be scored primarily based on how well you communicate your ideas. For those of you who are interested in going further with the staircase problem, you can write about a variation different from the one we focused on in class.

Write a reflection using complete sentences and good grammar that addresses all the points below. Someone at your level of mathematical knowledge, who has never seen the problem before, should be able to follow your paper. Please turn in the scoring guide (next page) with your assignment.

Note: Your paper should address all the points below, but you can address them in any order. Please write so that one paragraph flows into another (and don't number your points as in this handout).

1. Write a description of the staircase problem, or a variation of the problem, in your own words (if you choose a variation, name it!), where the first goal is to solve the problem for a large staircase (you pick the size; don't use height 100), and the second goal is to find a method to solve the problem for any height.

2. In one or two sentences, describe your favorite approach to the problem. This approach can be your own, a classmate's, or one found by a group or the whole class. Give credit to any other people who helped you develop this approach. This initial description should be designed to give the key idea(s) of the approach, without all the details. Explain why you like this approach.

3. Now, explain your approach in more detail. Use pictures, spreadsheets, graphs, etc. to support your explanation.

4. Explain how you could convince a skeptic that your answers are correct. This section was not required on the last paper – here is your opportunity to justify your thinking with a solid argument.

5. Write a conclusion. What was the most challenging aspect of the problem? Most satisfying? Include other thoughts that help you conclude your paper.

Name _____

Using the scoring guide below, what score do you think you deserve on your reflection, and why?

Scoring Guide for Reflection #1

Level 5 -- Note that level 5 means you've gone above and beyond the assignment. Level 4 is comparable to an A; level 5 is higher.

Does the work of Level 4, but chooses an especially difficult case to write about or writing is exceptionally good.

Level 4 – Reflection addresses all items on the list in a clear fashion with accurate mathematics. Writing is clear and mathematics is accurate or reflection goes beyond the assignment in a significant way that makes up for not quite addressing all items on the list or not always being clear.

Level 3 – Reflection addresses most of the items on the list in a clear fashion with accurate mathematics or else writing addresses all of the items on the list but is not always clear or mathematics is generally accurate, but contains a few non-trivial mistakes.

Level 2 – Reflection addresses some of the items on the list in a clear fashion with accurate mathematics, but some of the items on the list are not addressed clearly or mathematics contains some accurate portions, but some serious mistakes.

Level 1 – Reflection addresses a small portion of the items on the list and is not very clear, with not very accurate mathematics.

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