
ORIGINAL PROBLEMS, EXPECTATIONS

Your next task is to write some problems! Specifically, you should come up with two good problems suitable for the conceptual part of a FunDay. You'll begin by writing two problems based on the material in Chapter 1. This is because you are already familiar with that material, and this makes problem writing a bit easier.

So how should you approach writing problems? Notice that the first conceptual problem on the past few FunDays was based on something very familiar we worked out in class.

The second conceptual problems are quite a bit more challenging, and are harder to come up with. There is no "right" way to do this – just try something! Experiment, draw, doodle, meditate, dance, scream, juggle, defenestrate, whatever. Discuss it with a friend.

So here's what you need to include when you write an original problem:

1. **MOTIVATION:** How did you come up with the problem? Was it based on a problem in the book? An exam? Were you doodling? Did it come to you in a dream? In the shower? Just a sentence or two will suffice here. But, importantly: acknowledge your source! It's OK to look at other problems, just cite them if you use them.
2. **PROBLEM STATEMENT:** Fairly self-explanatory. But a caution: give it to someone else to proofread! One of the most common traps to fall into is to write a problem which can be interpreted in more than one way. Is your problem stated absolutely clearly, so that someone else can understand it perfectly without needing to ask you any questions about interpretation?
3. **PROBLEM SOLUTION:** Again, self-explanatory. But your solution should be in paragraph form, using complete sentences! And if you only have a partial solution, you should explain where you are stuck and those questions whose answers could enable you to make further progress.
4. **REFLECTION:** Only a few sentences are necessary here. What did you learn? What did you observe about yourself as a problem writer? At the end of the semester, you will need to write an essay about your growth as a mathematician and problem-writer, so making notes along the way would be a good idea.

Remarks:

- Your work must be done on a word processor.
- Your problem must be submitted to turnitin.com. It is due by midnight on the day the problem is due. No grace period this time.
- Start early! This can be a fun assignment – but not if you wait until the last minute. It's better to have some time to mull things over.