Guide to grading

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This note is about how I ask teaching assistants to grade homework.

What I don't do. It is common in mathematical grading to take off a point for each error, two points for a worse error, half a point for a less severe error, et cetera. If the same error is repeated then maybe a lesser penalty should apply to subsequent appearances; after all it is just one misunderstanding twice not two errors. This approach also requires following an argument down a wrong branch to see if any further errors arise. What I don't like about this approach is that it takes up too much of a TA's time and returns very little value to the students in return. It becomes very difficult to ensure that the same flaws get the same penalties and it can even be hard to know for sure whether a flaw on the present paper is really the same as one from 50 papers ago. The time is better spent making helpful comments to the student about what went wrong.

What I do: points per question. First, each question is given a value, typically eight points, but adjusted up or down according to the amount of work done in a typical correct solution. A shorter question might be worth 4 or 2 or 1. If a question is much bigger than 8 points then it gets split into parts worth 8 or 4 or 2 or 1 each. The graders are best positioned to judge the number of points per question after they see how much work the students do.

What I do: grades. For an eight point question I like the following rubric:

- **8)** the answer is complete and correct, or possibly has minor flaws not worth mentioning.
- **6)** the answer is mostly correct but there is some error or flaw that prevents it getting 8.
- **0)** nothing, or nothing appropriate was said.
- **2)** there is a step in the right direction, such as setting up suitable notation, but no significant progress.

Everything better than a 2 but not as good as a 6 gets 4. The errors on a paper should still be commented on for the benefit of the student, but focussing on what was not understood rather than precisely how many points it was worth. I used to

use 10 points but $\cdots$ that left a larger gap between the 2s and the 8s than I liked. If something is exceptionally excellent the TA can give 10 out of 8. For most questions that won't happen for any answer.

For a four point problem the scale is 4,3,2,1,0 just the same as 8,6,4,2,0. For a two point problem the scale is 2,1,0 (right vs partial vs no progress) and for a one point problem it is 1,0 (ok or not).

At the TA's discretion, if there is a solution that is much better than anticipated and also better than what most other students submitted, it can get 10 out of 8 (with similar adjustments for the other scales). It could be more elegant, or more general, or much shorter.

In addition to saving time, I believe that this scheme is much more likely to lead to the same grade being given for a solution graded by two different people.

Regrade requests. The grade you get might not be correct. This should be rare with the qualitative rubric above. If you think it is not correct, approach a TA to find out more. We want the correct grade to be given. It is better to ask in person than by email.

Sometimes we find that 90+% of the regrade requests come from a handful of students. It is not likely that 90+% of the errors made were for just a handful of students. Instead, some students would ask for a regrade "just in case". Please do not do that; it is disrespectful of the teaching assistants' time. They are students too, not bots.