

Duties of Mathematics Readers/Graders

In an attempt to improve the quality of mathematics homework grading, the following guidelines have been prepared in order to help motivate and instruct readers (graders) in their tasks.

Mathematics readers can play an active role in the education process. Readers give students concrete feedback as to their performance and understanding of the course material. The enthusiasm and energy of the reader helps to set the mood of the course. The students tend to match, with their effort on homework, the effort used by the reader to grade and comment. Improved homework will lead to improved scores on exams, and higher marks in the course. The grading forum is an educational tool that should not be taken lightly.

Reader – TA/Instructor Relationship (COMMUNICATION)

- 1) The first thing you should do once you are assigned a class is to meet the instructor and the TAs. Introduce yourself, and make sure contact information is shared on both sides.
- 2) You are the TAs' and the instructor's eyes and ears. Let them know if a good portion of the students seem to be having difficulty with a certain problem or concept. This way the TA can cover it thoroughly in section and/or office hours, and the instructor can try to clarify the problem in lecture.
- 3) It would be ideal to report regularly to the TA and the instructor in email. Comment on how the class is doing as a whole, on specific difficulties, and on specific students you feel warrant extra attention. Most instructors and TAs will love these reports.
- 4) Contact the instructor/TA **immediately** if you anticipate that you will be late in returning work. This way they will be able to manage student expectations appropriately.

Grading Rubric & Point Grading

- 1) Check with the instructor & TA to see what point scales they would like on assignments. If they seem flexible, let them know if you have a preference (e.g. 4 points per problem).
- 2) If left up to you, assign an overall scale as well as a rough scheme for assigning partial credit, keeping in mind the following:
 - Low point scales more easily lend themselves to consistent grading; for example, if a problem is worth 4 points, you could use a scale such as 4/4 means within epsilon of perfect, 3/4 means over half correct, 2/4 means a good start or around half correct, 1/4 means the solution contains a seed of a relevant idea.
 - Students should receive at least some partial credit for demonstrating knowledge of the key concepts for each problem.
- 3) It is tempting to simply *answer check* in calculus classes. But remember that a student's **solution process** is generally more important than the final answer to the problem. Depending on the statement of the problem, correct answers with no justification can receive a score of 0.

4) The TA should provide solutions to the problems to be graded; however, you may wish to solve the problem you are going to grade on your own, keeping in mind the following:

- Are there multiple approaches to the problem?
- What key concepts must be understood in order to solve the problem?

5) Briefly review ten or fifteen homeworks/quizzes to get a better feeling for common mistakes, and consider the corresponding partial credit points.

6) Be consistent in the grading; this is equally about fairness and protecting yourself from complaints. Once you've assigned partial credit points to responses you believe will be common errors, be sure to write this rubric down. Refer to your rubric often, making small refinements as you go.

7) Spot check yourself often. Set aside the first few papers and refer to them at regular intervals as you grade. See if you are consistently awarding credit.

8) When an uncommon error arises, write down the points you award it. It's likely you'll see that error again before you're done.

9) Indicate the received score and total possible points on the top of the first page of the assignment.

Comments

1) A general positive or constructive comment next to the total number of points can be uplifting (e.g. "Nice work – keep it up!" "Try to talk to the TA about the integration by parts – the TA should be able to clear it up")

2) Talk to the students with your pen. Think of it as a correspondence between you and them. Explain your thoughts on paper just as you would if you were tutoring them in person.

3) Try to be supportive and constructive whenever possible. Comments should not only come when students make mistakes; let them know when they have completed a problem in an innovative or clever way.

Record Keeping and Grading Allocations

1) Competent record keeping is essential for this job. Ask the instructor and/or the TAs how they want this handled. If practical, keep a record of the grades in the manner decided by the instructor (excel spreadsheet, TED, etc). Ultimately, the TA is responsible for maintaining records, but in practice it is much easier to enter grades while you are grading the work.

2) The sooner the graded homework is returned to the students, the better. If they get their homework back while it is fresh in their minds, your feedback will be more meaningful. Student who get their work back three weeks after they turned it in usually do not look at the paper past the score on the front of it.

3) Be honest about your time allotments. If you need more time to complete the grading, don't be bashful. Tell the instructor and department right away. An adjustment in allocation may be warranted.

4) Your first assignment may take a significantly different amount of time than your initial allocation. This is to be expected. Use the first assignment as a means of calibrating your effort, and adjust your time accordingly on future grading. In general, students should be able to grade three problems per homework and meet their weekly allocation amount.

5) Initial allocations are based on projected enrollments, which can change. Your final weekly allocation information will be calculated based on 3rd week enrollment numbers. This number is usually within 0-3 hours/week of the initial allocation, but can vary if unexpected numbers of students add or drop a particular class.

6) Your allocation is formatted to assume that you will be grading weekly homework. Some instructors, however, may have quizzes instead of homework. These are usually scheduled every other week, so your grading allocation for any given quiz will be approximately twice your weekly allocation. The weeks you do not have quizzes, you will have no grading.

Timesheets

1) Graders are paid bi-weekly, and report their hours on timesheets available in the mailroom (or from the front desk should supplies run out). You should submit a timesheet even if you did no work in the pay period, with zero hours listed.

2) The due date for each timesheet is printed on the top of the sheet. You need to return the sheet by this date to ensure you will be paid for your time. Late timesheets may result in a delay of payment. The due date is generally on a Friday. If you plan to work on the Saturday following a due date, you may submit the sheet on the following Monday.

3) Please make an effort to obtain your instructors signature on your timesheet before submitting. If you are unable to have them sign your sheet, submit a photocopy. The front desk staff will enter your hours while you get the needed signature. You should never leave a timesheet in your mailbox for your instructor to sign (unless specifically directed to do so by the instructor).