Grading Midterms

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Announcements

- Observation comments will be posted on Gradescope as they come. Email us afterwards if you wish to discuss them.
- Go ahead and start thinking about review sessions or extra office hours before midterms. Coordinate with your co-TAs on this.
- Example teaching statement on course website. See first session's background column.

Comments on Observations

- Don't spend more than 10 minutes reviewing (unless your instructor asks you to). Only highlight important stuff.
- "Here's the next step" $\ll$ "Here are some things that might tell us what to do next"
- Avoid yes/no questions. Students can lie if you ask "have you seen this before?" but they can't if you ask "how do we know this is true?"
- Don't cover things that have yet to be taught or are not in the course's curriculum.
- Pause longer when you ask questions.
- Ask for student input ALL the time. If they're quiet, break a problem down into very tiny (seemingly unnecessary to you) steps. You'll find their misunderstandings this way.

Overview

Proctoring

Grading
- Guidelines
- Regrades
- Example Problems

Brace Yourself for Exams

For Students

- Often have never failed an exam.
- Overestimate the detriment of failing
- Running on -5 hours of sleep. Grumpy, stressed.

For TAs

- Grading literally takes forever.
- Students can show little appreciation of grading.
- Grumpy, stressed, and probably a little hungry.

Figure: 30 Rock.

The DL on Proctoring

- You are expected to help proctor unless otherwise stated.
- Contact your instructor to clarify expectations.
- If you are unable to proctor (due to class, say), **you** are responsible for finding a replacement.
- Show up early to pass out exams. Stay to collect exams at the end.

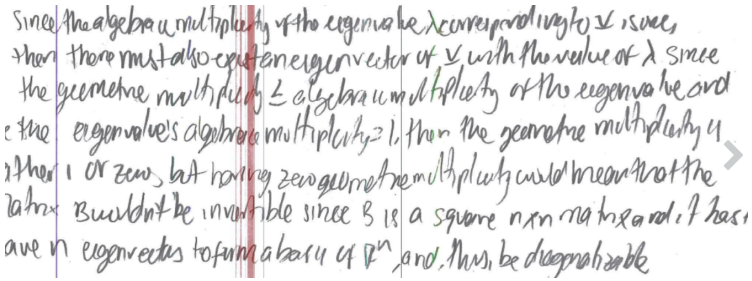
More Tea on Proctoring

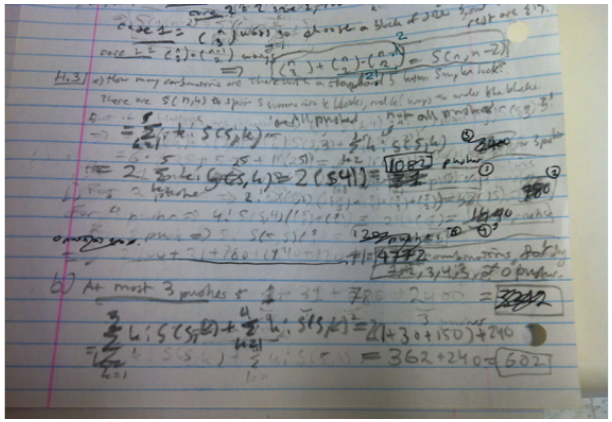
- No playing with your phone, reading, or doing other work.
- Answer clarifying questions.
  - You should not have to look at student's exam to answer a question.
  - "I cannot answer that question."
- Be on the lookout for cheating.
  - Wandering eyes, unauthorized test aids (phones).
  - Have one TA in the front, one in the back.
- Talk to your instructor 'bout a seating chart

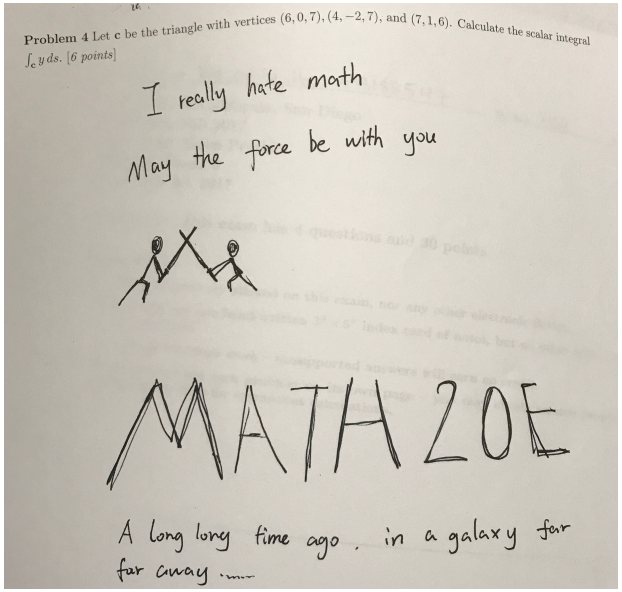
What To Do If You Suspect Cheating

- DO NOT TAKE THEIR EXAM AWAY.
- Inform the instructor. Do not make a scene.
- If necessary, move them discreetly.
- If they are using unauthorized material (e.g. cell phone, cheat sheet), have instructor confiscate them.
- Record student's name, and mark nearby exams as well.
- All parties involved should write a statement while memory is fresh.
- More on the Academic Integrity Process on November 1st.

Grading: An Appetizer







The Rulebook

- Create rubric guidelines before you grade by looking at some exams.
  - Do not show your rubric to students. They'll use it as a bargaining tool.
  - You can explain in words what you were looking for though.
- Leave constructive comments on exams.
  - **Okay:** "This response is completely off topic, poorly organized, hard to follow, and incorrect." Point out where they got points off. Indicate how many points were deducted.
  - **Not Okay:** "This response sucks."
- Don't be afraid to be firm with students. Gently point out all mistakes.

Consider the Context

Relevant

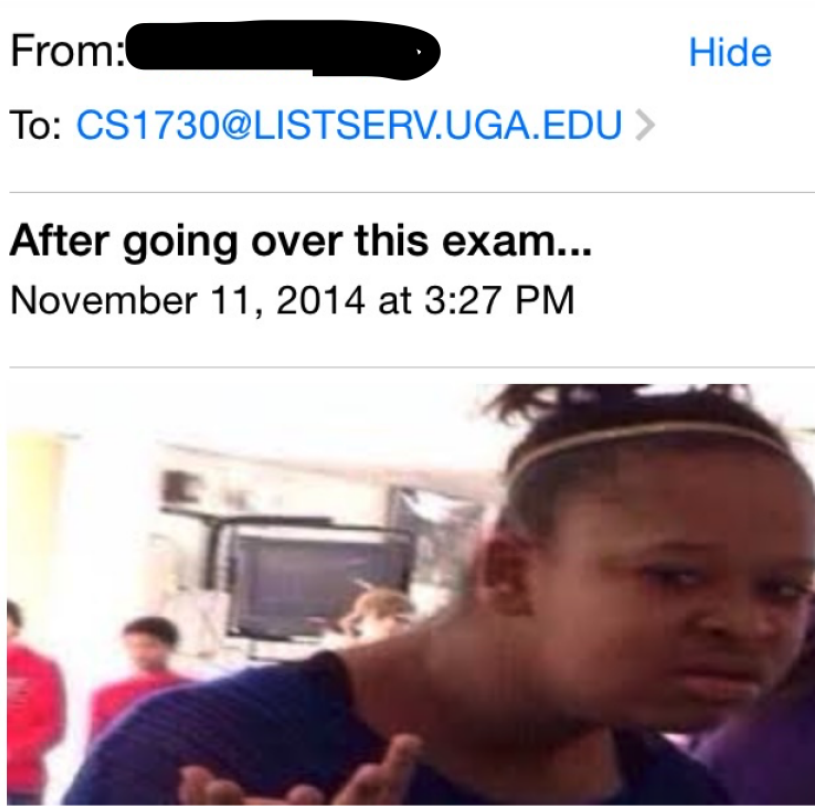
- What is the course?
  - Different standards in a proof-based course vs. low level calculus.
- What have other responses been like?
  - Consider adjusting leniency.
- Are there any ambiguities in the question statement?
- Did the mistake make problem easier?

Absolutely Irrelevant

- Is the average going to be too low?
- Did they write a lot of stuff?
  - Only focus on what is relevant and correct.
- Does it look like they tried hard?
- Did this student historically perform well/poor?
- Did the mistake make problem harder?

Pro Tips for Grading

- Take grading seriously. Exam scores mean **a lot** to students.
- Grade consistently.
  - Have only one TA grade a particular question.
  - Update your rubric as you notice new types of errors.
- All-or-nothing grading leads to riots. Do assign partial credit for partially correct work.



Yet More Pro Tips for Grading

- You need to coordinate exam grading with co-TAs.
  - **Sans Gradescope (ugh):** Handing off exams to grade. Entering scores.
  - **With Gradescope:** Scanning exams.
- Seriously consider throwing a grading pizza party to get it all done in one night.

Handing Back Exams

- **Eric and Jacqueline's Opinion:** Hand exams back at the end of section, but leave plenty of time to go over it and answer individual questions.
- Go over exam solutions on the board. At least those students want to see.
  - Alternatively, post written solutions on course website.
- Ask them to clear desk before returning exams.
  - No writing whatsoever in exam booklet.
  - **Department Policy:** Regrade requests must be made **before** exam leaves room
- Do not end section early unless you have many students who want to chat individually.
  - If you move on to other stuff, have them put exams away.

Negotiating Regrade Requests

- Forward request to whoever graded the problem.
- Don't criticize the grading of your co-TA's.
- If there is an unequivocal mistake in the grading, regrade it.
- Don't try to appease students by giving back a few points on partially wrong answers.
- Students have the right to **ask** for a regrade. That does not imply they must receive one.
  - Beware of accepting too many. You may get an inundation of regrade requests if you come off as a pushover.
- It's the student's responsibility to organize their work neatly when they take the exam.

Most Regrades = Just Venting

- Students have the burden of proof that there was a mistake in grading.
- Students must provide a clear explanation why they think a regrade is necessary.
- Do NOT regrade exams in front of students.
  - You need time to reflect on the students work.
  - It may encourage a mob of regrade requests.
- If you feel harassed by a student, tell Eric and the instructor.

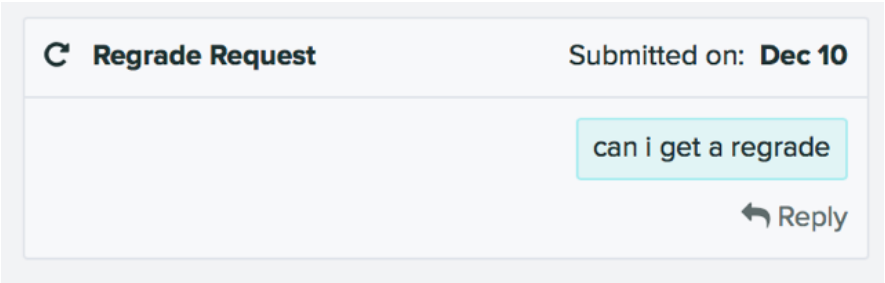


Figure: Not with a request like that!

Returning Regrades

- Do it during next week's discussion or in office hours.
- If a student continues to argue, do not engage.
  - Students can take their complaint to the instructor if they wish.
  - The instructor may consult with you (and most likely will side with you).

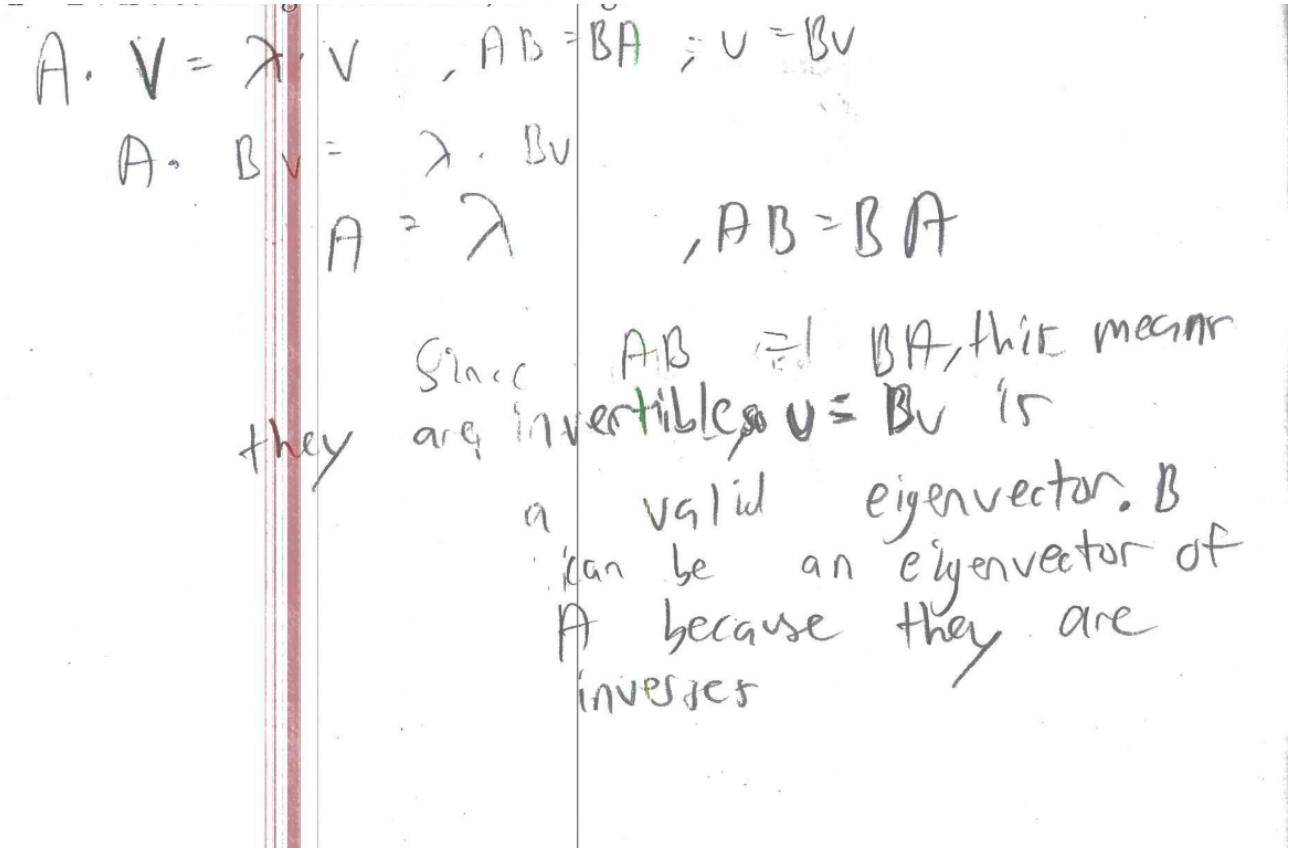
Example Problem

(6 pts) Suppose A, B are square matrices and $AB = BA$. Let (λ, v) be an eigenpair of A.

1. Show that (λ, Bv) is also an eigenpair for A.
   - $ABv = BAv = B(\lambda v) = \lambda Bv$.
2. Now suppose that the algebraic multiplicity of λ is equal to one. Use (a) to show that v is also an eigenvector of B.
   - Algebraic multiplicity $\geq$ geometric multiplicity ≥ 1.
   - $\implies$ geometric multiplicity $= 1$.
   - v, Bv in eigenspace corresponding to λ.
   - Conclude v and Bv are parallel.

Student Response

Suppose A, B are square matrices and $AB = BA$. Let (λ, v) be an eigenpair of A. Suppose that the algebraic multiplicity of λ is equal to one. Show that v is also an eigenvector of B.



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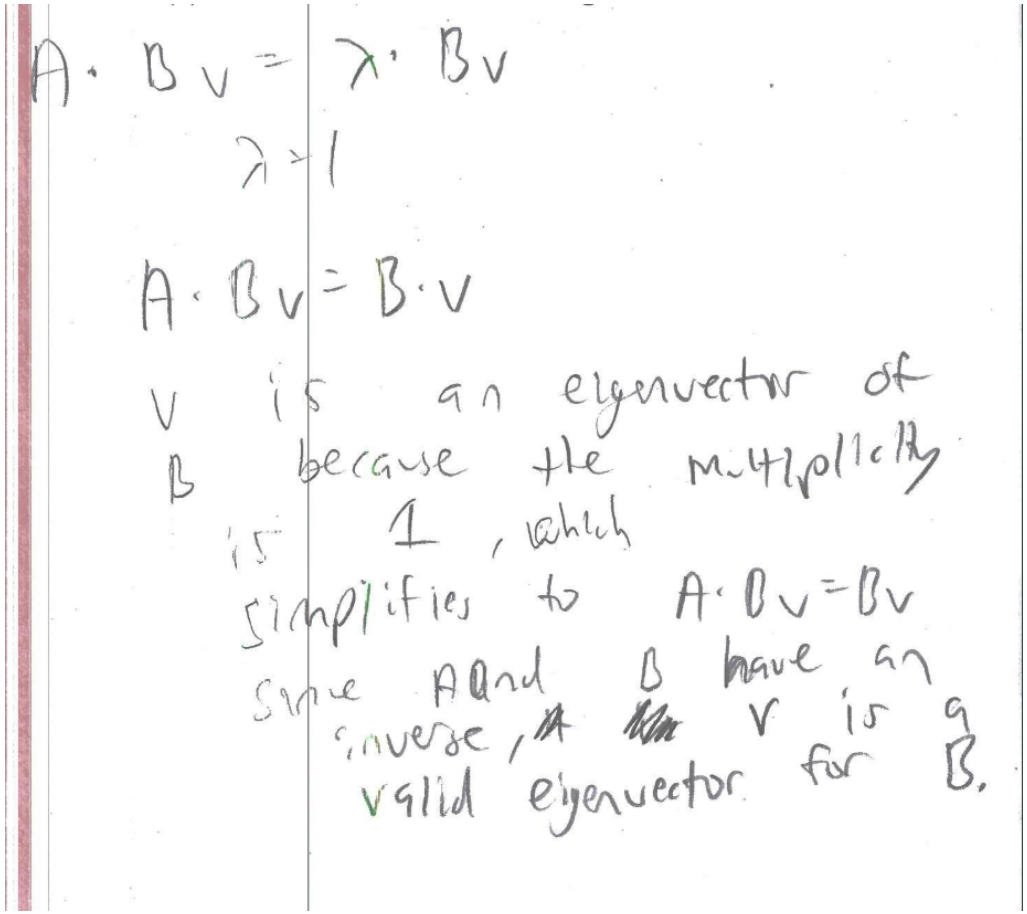

Regrade!

Furthermore, in problem number 7, I was given 1 point, but for correct ideas towards proof, but I believe this should be given 2.5 points for mostly correct proof with some minor errors in precision or terminology. I believe that my proof was concrete because I used the equation for eigenvalues and manipulated it by substituting u = Bv, and then further elaborating on it and using the inverse definition as well.

Furthermore, I would also like to add that I was extremely close to a passing grade of a 25/50, but I was just short by 3.5 points. Had my final been a passing grade, I would have received a C in the class instead of an F. This is very unfortunate for me because I planned on taking Math 184A during the summer. I had done extremely well on the 1st mid term, scoring a 29/30, and did average on the 2nd mid term, but I fell behind a lot after that because of family and financial issues that affected my ability to study, since my parents went unemployed at that time so I had to help them find a new job, since their English is not very good. Also, CSE 30 was a lot harder than I expected so that took up more than 20 hours a week. I believe that I understood the material now that I look back on it, but sadly it is too late. I did not expect the final to be that difficult and it the Saturday time did not help either unfortunately! Can you please look at my Math 18 final and see if there were any grading mistakes?

Thank you!

Regrade!

- Does the student bring your attention to anything you missed while grading?
- Beware the pity parties. Final course grade adjustments should be directed to the professor.

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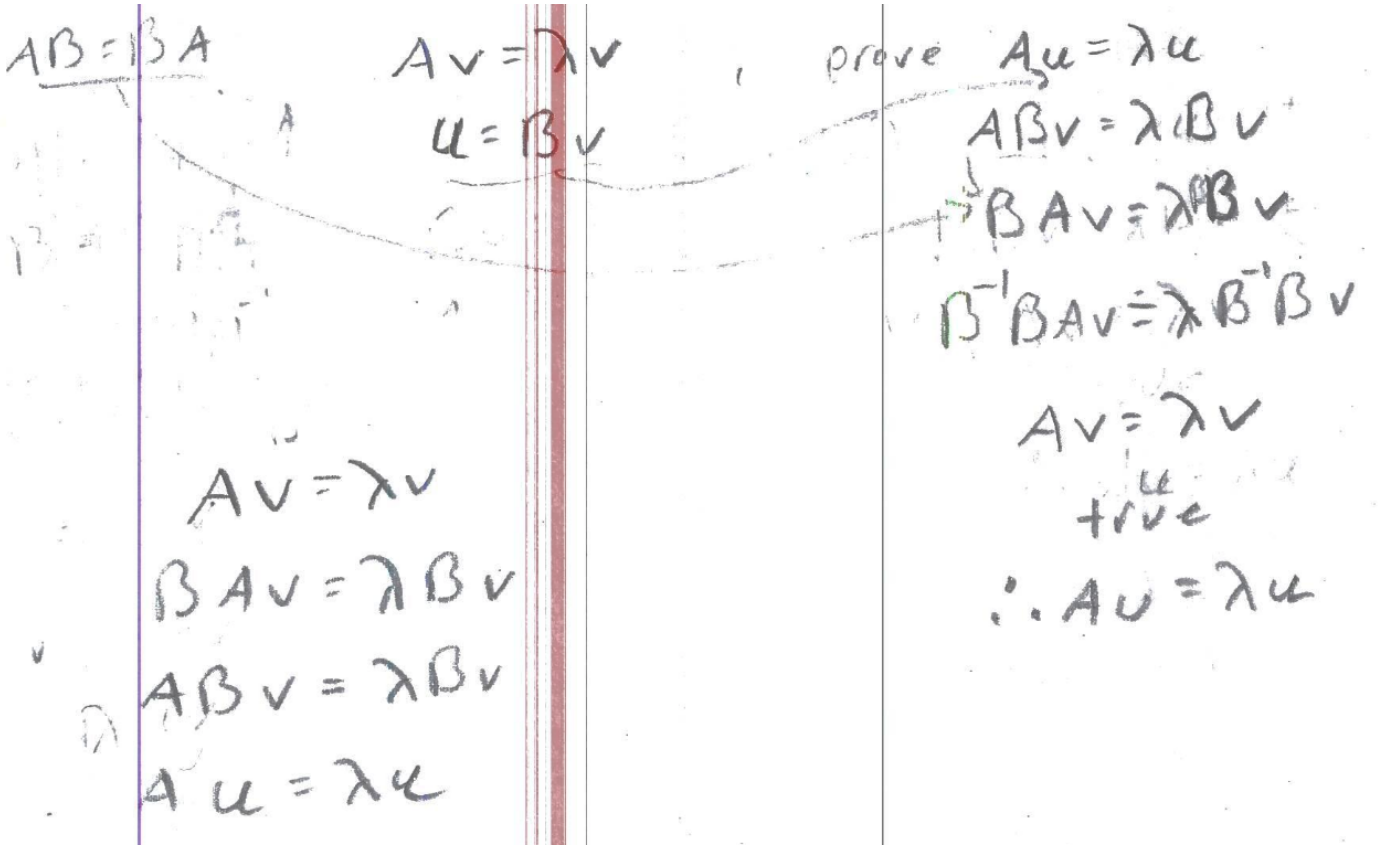

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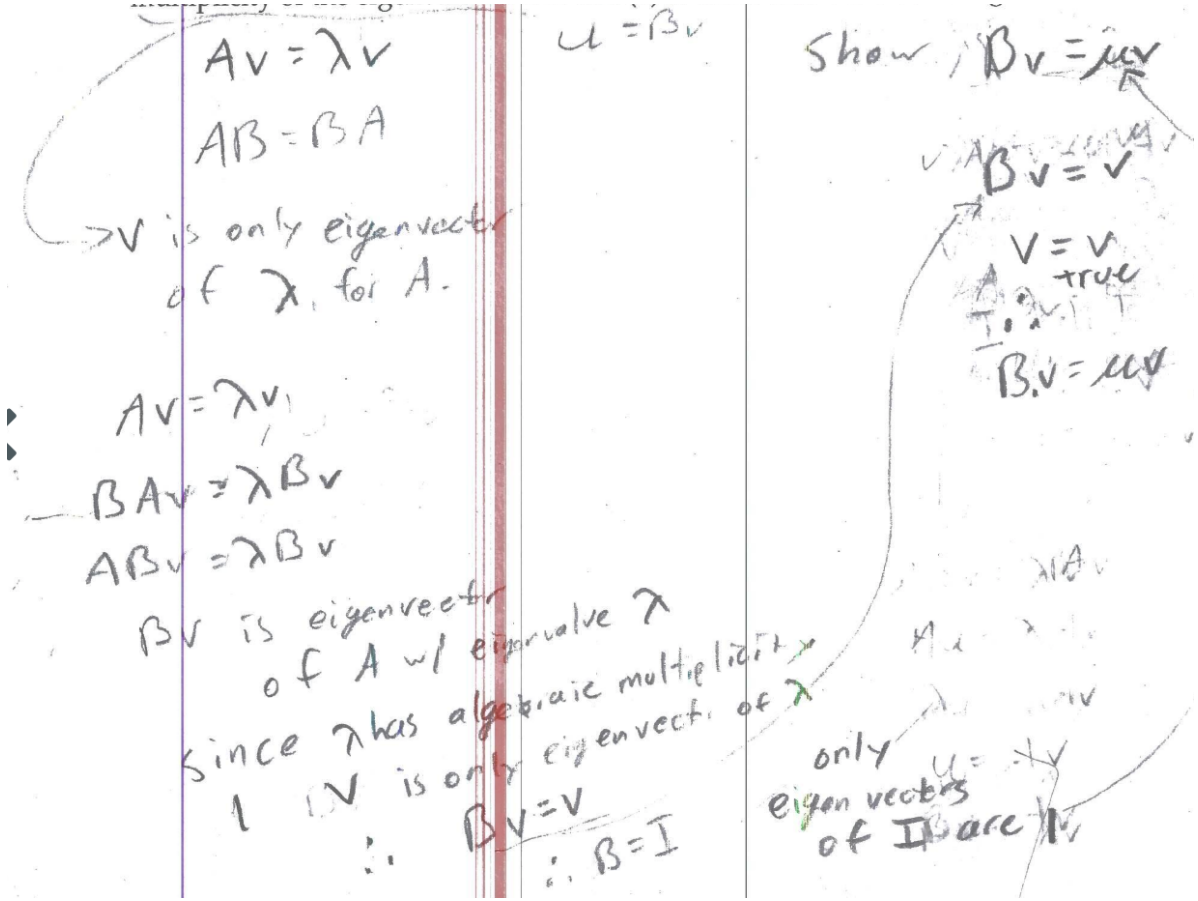
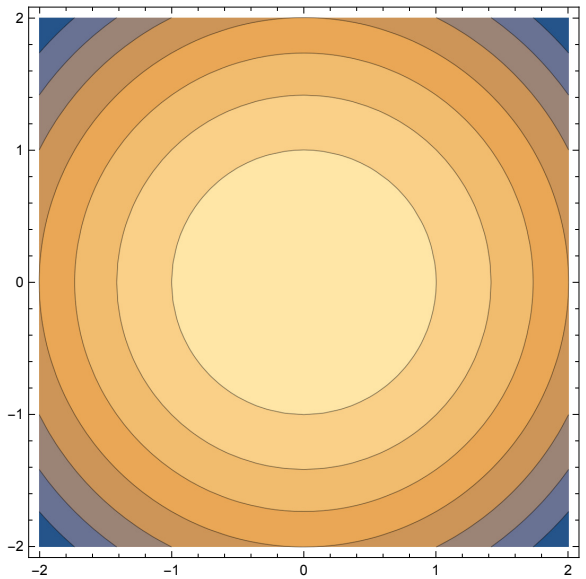
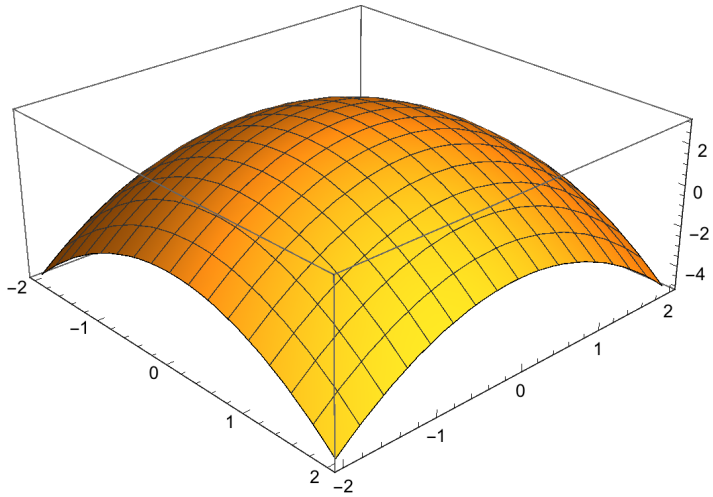


Example Problem

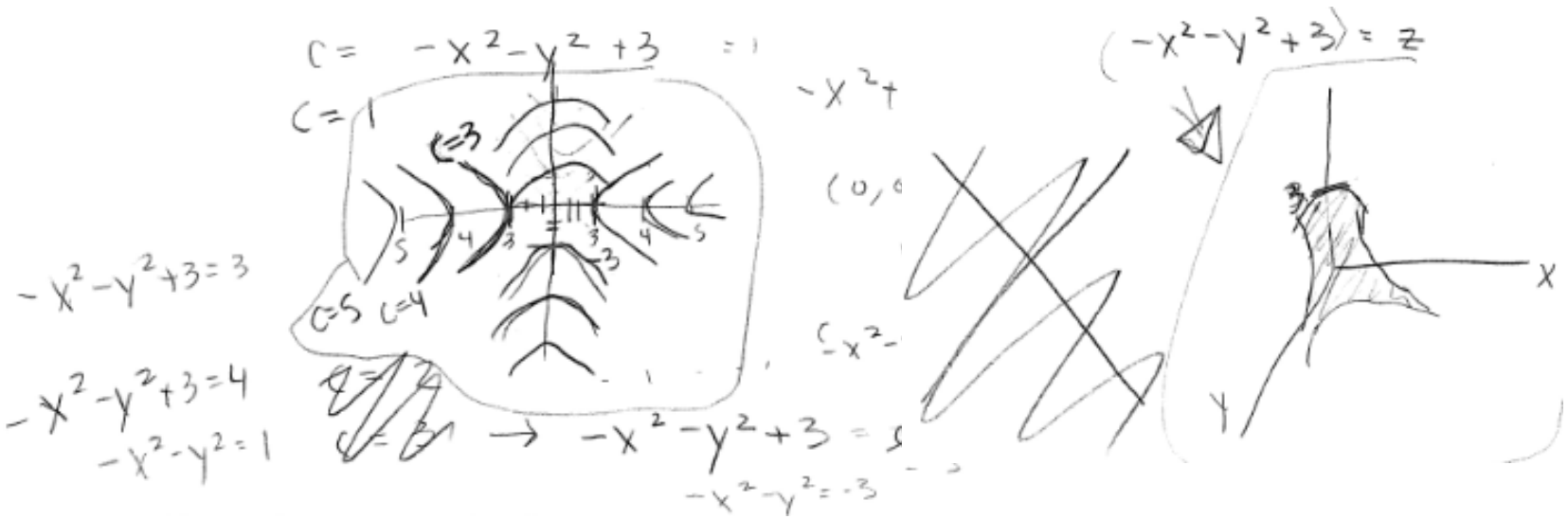
Let $f(x, y) = 3 - x^2 - y^2$.

1. (5pts) Draw a contour diagram for f which is clearly labeled. Include at least three different contours.
2. (5pts) Sketch the graph of f.

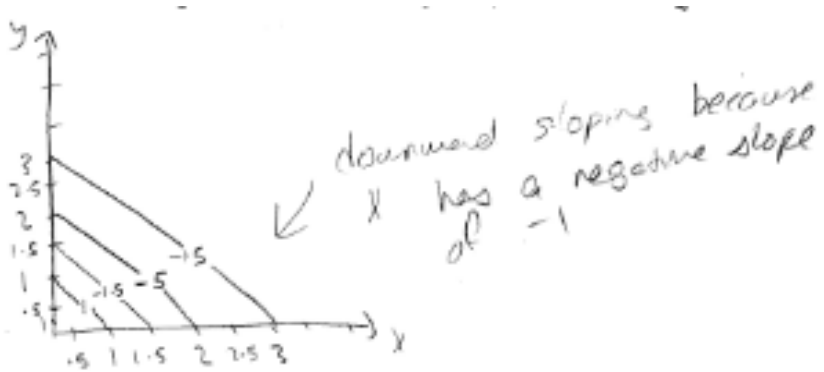


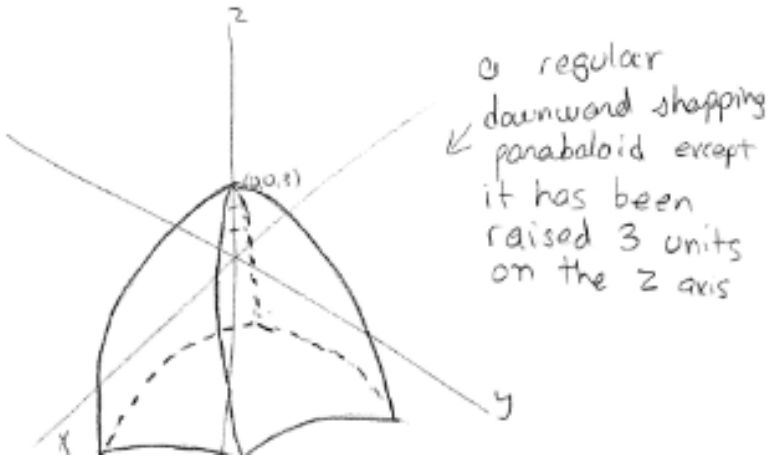


Student Response 1

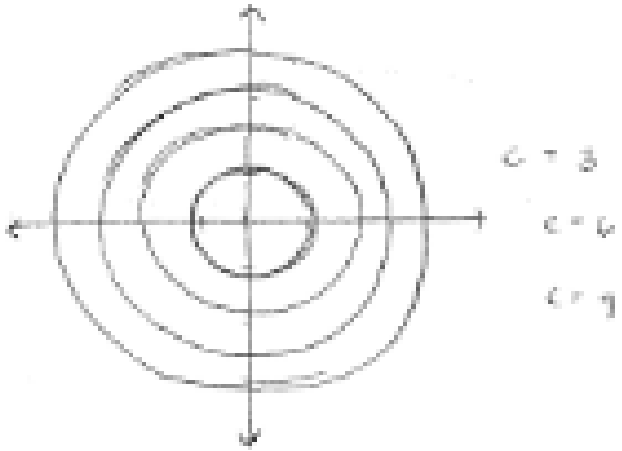


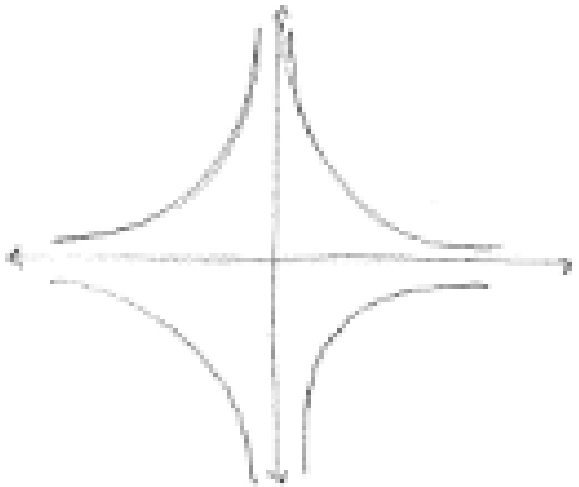
Student Response 2





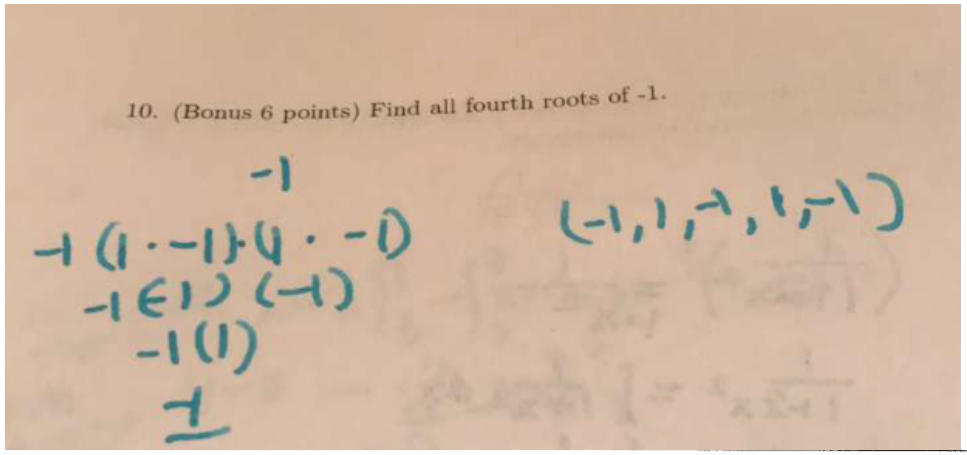
Student Response 3

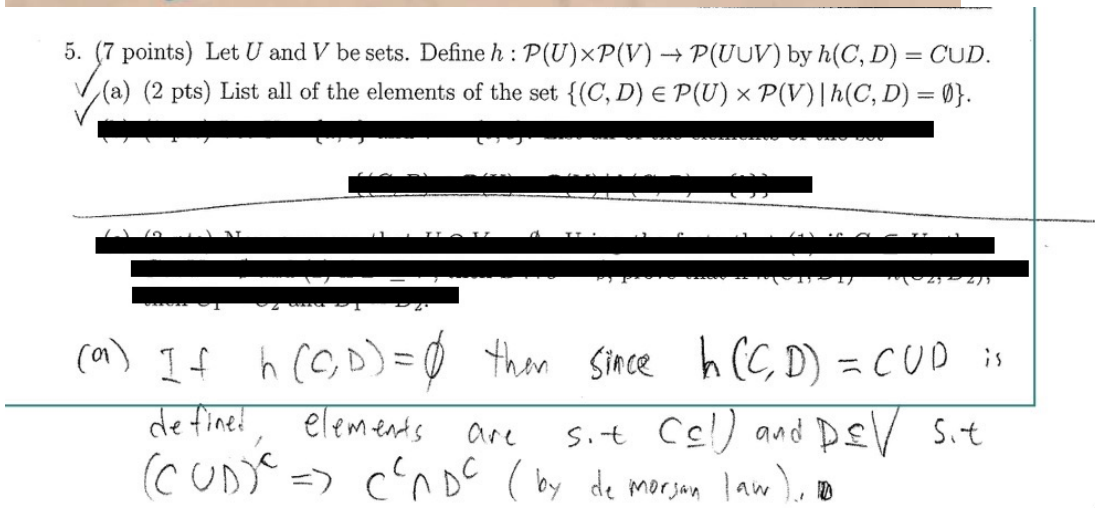




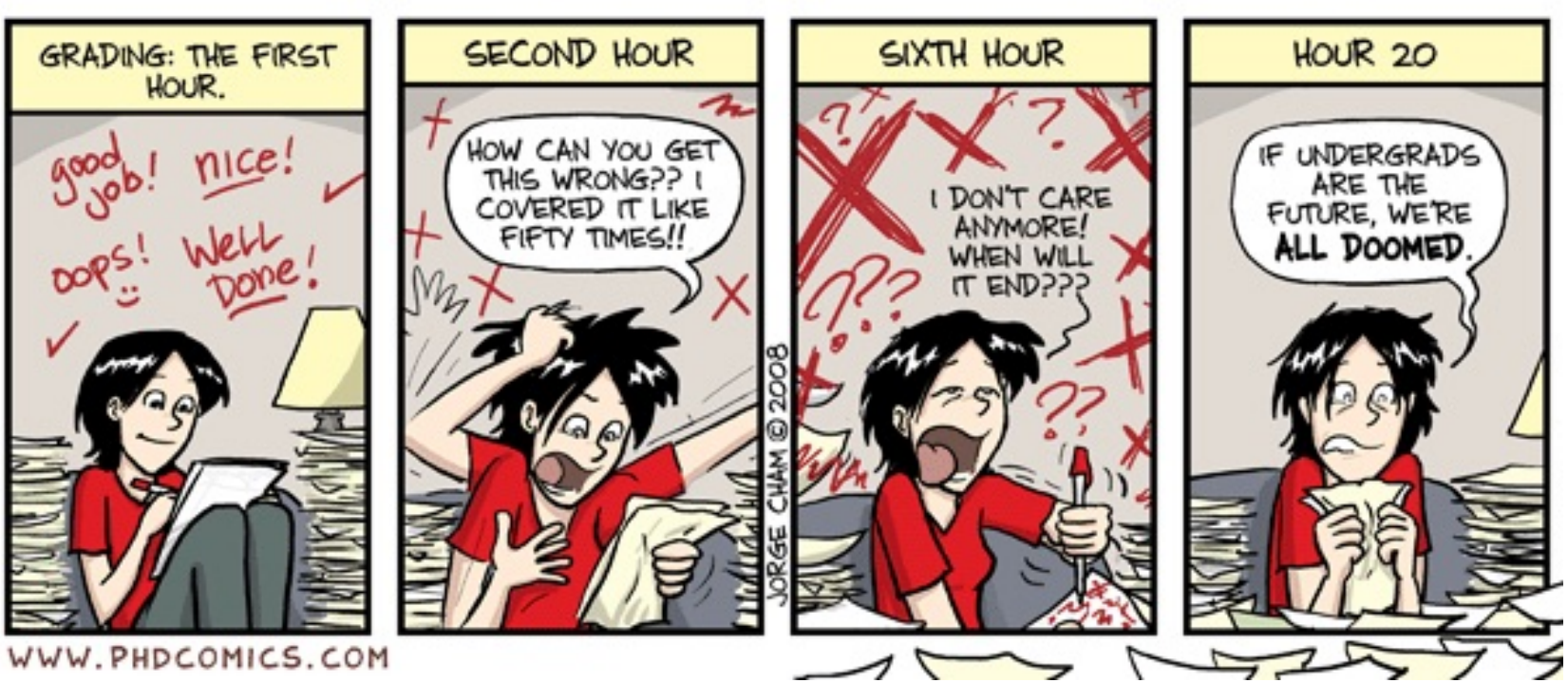
What Deserves No Credit?

- Few answers deserve 0 points.
- Remember, 0 points is equivalent to the student writing down **nothing correct**.





Stay Strong...


GRADING: THE FIRST HOUR.
good job!
nice!
oops!
Well Done!
SECOND HOUR
HOW CAN YOU GET THIS WRONG?? I COVERED IT LIKE FIFTY TIMES!!
SIXTH HOUR
I DON'T CARE ANYMORE! WHEN WILL IT END???
HOUR 20
IF UNDERGRADS ARE THE FUTURE, WE'RE ALL DOOMED.
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