

Avoid Common Mistakes on In-Class Quizzes and Exams in Math Class

In-class quizzes and exams are performances that depend on time. For each concept or idea that we will be tested on, there are three learning activities that we need to complete:

1. Understand the idea (Create highly valuable lesson notes and address questions that arise)
2. Remember the idea (Use the green-yellow-red daily active testing system)
3. Recognize when to apply the idea in practice (Practice problem solving using in-class examples, quizzes, suggested problems, and practice exams with a focus on the reasoning process behind the solution. Specifically, each time we apply a concept from the class, we might ask myself: why did I apply that concept in this situation? How would I have known to do this? What trigger might I recognize?)

These three steps are necessary but not sufficient for achieving our academic goals on in-class assessments. In other words, for each concept we will be tested on, if we don't do these steps, we will likely not do well on the exam. However, just because we complete all three of these steps does not guarantee that we will do well on a timed quiz or exam. This is a cruel reality: to do well on in-class assessments, we need to build strong performance skills in addition to strong conceptual understanding of the content on which we will be tested.

As we have discussed before, one of the best ways to improve our test-taking skills is to focus on learning from our mistakes. To learn from mistakes, we need to be able to do the following three things

- Have the self-confidence and determination to identify and admit that we made a mistake
- Correct our mistakes by finding the proper solution to all problems that we missed
- Be courageous and strategic about making changes in our routines to avoid making these mistakes in the future

By completing the exam correction process, we identify our mistakes and write the correct answer. We also brainstorm about how we might make changes to our study routines to improve our next quiz or exam score.

This document is designed to further inspire enhanced performance in on future exams. We do so by discussing common exam mistakes and making specific suggestions on what you might do to correct each mistake.

TYPE 1: MISREAD DIRECTIONS ERRORS

These errors occur when we do not fully read the directions or misunderstand the some crucial part of the problem statement but we answer the question or attempt to solve the problem anyway. Examples of errors in this category include:

- I didn't read the entire problem.
- I didn't pay attention to a key condition in the problem statement.
- I didn't address all parts of the problem.

To avoid this type of error, we might make a pre-commitment to read all the directions carefully before you start the problem. Practice this habit on the in-class handouts, daily concept quizzes and on all in-class quizzes and exams.

TYPE 2: CARELESS ERRORS

These are errors that we might have caught immediately had we just reviewed our work. Examples of these type of errors include:

- I made a silly arithmetic or algebra error.
- I knew how to solve this problem, made a mistake in my work and I didn't check my answer.

TYPE 3: CONCEPT ERRORS

These are mistakes we make because at the time we took the test, we did not fully understand the properties, principles, and techniques required to work through the problem. Examples of these type of errors include:

- A. I had a difficult time connecting the ideas I studied to this problem statement.
- B. I didn't know a definition, key term of theorem related to this problem.
- C. I didn't understand the concept(s) behind this problem well. I didn't fully learn this material.

TYPE 4: APPLICATION ERRORS

These are mistakes we make because at the time we took the test, we had not spent enough time actively solving practice problems prior to the in-class assessment. Examples of these type of errors include:

- A. I had a difficult time connecting the ideas I studied to this problem statement.
- B. I didn't think of the proper method to solve this problem.

TYPE 5: TEST PROCEDURE ERRORS

These are mistakes we make due the specific way we take tests. These include:

- A. I missed more questions in the first-third, second-third, of last third of the exam.
- B. I did not complete a problem through the last step
- C. I forgot to finish this problem. I left this problem partially complete.
- D. I rushed through this problem and skipped steps.
- E. I got stuck and spent too much time on one problem thus ignoring other problems on the assessment.
- F. I rushed through the easiest part of the test and made careless errors.
- G. I miscopied an answer from my scratch work to the test.
- H. I left problems blank on the exam because I ran out of time.
- I. I tried to solve all problems on the test in the order they are written (start with the first problem, then move on to problem 2, then go to problem 3, and so on.)
- J. I attempted to finish every problem before moving on to the next problem.
- K. I skipped this problem and forgot to come back at the end of the exam.
- L. I ran out of time on this problem.

TYPE 6: EMOTIONAL MANAGEMENT ERRORS

These are mistakes we make because we are nervous or because we don't know how to deal with our nerves prior to an timed quiz or exam. Such mistakes include any of the following:

- A. I didn't sleep enough the night before the exam and wasn't focused when I tried to solve this problem.
- B. I became emotionally overwhelmed with the stress of the quiz or exam.
- C. I had the right answer but second-guessed myself.
- D. I wasn't confident in my answer, overthought myself, and changed a correct answer to a wrong one.
- E. I panicked and forgot what I know about this problem

TYPE 6: STUDY ROUTINE ERRORS

These mistakes result from the study habits that we used prior to this exam. Perhaps we studied the wrong material or did not spend enough time studying pertinent material.

- A. I had a difficult time connecting the ideas I studied to this problem statement.
- B. I didn't get enough sleep the night before the exam.
- C. I still don't know what I did wrong.
- D. I still don't know what the correct solution should be.

Finally, in some situations, we might think we actually deserve full credit on this problem, even though the instructor graded us down for our response. In this case, we will want to have a rewritten version of our answer along with a well-articulated argument that demonstrates that our original work is legitimate. Perhaps we might then chat with our instructor at an appropriate time (in office hours or maybe before, during, or after class).