

## Chapter 7: Studying in Perspective

### *Preparing for Exams*

Before you can take a math test, you have to study the content that is going to be on the test. This process can be different for every student. By taking good notes, doing your homework, and asking questions in/out of class; studying for a test can be easier than you think. The more you practice the examples and learn the vocabulary, the easier it will be for you to take the test.

Feeling comfortable with the material is the key to lowering test anxiety and having confidence in your mathematical ability. As many mathematic concepts rely on your understanding of previous material, be sure never to discard notes and study guides from previous chapters. You will need the material in your next math course!

There is important information all students need before even starting to study. To relieve test anxiety, ask your professor these following questions before you start preparing for the test:

#### **What is the date of the test?**

- Give yourself about a week before a test to start to prepare. Many professors will give you the date of the tests on their syllabus. If it's not listed, simply ask the professor.

#### **What is the format of the test and how many questions will there be?**

- Will the test be multiple choice, constructed response, or essay? It will be easier for you to create a practice exam with the same number of problems and same format as the one you will be taking in class.

#### **Is there a time limit?**

- Some students get nervous when taking timed tests. When taking a practice test, you will want to have the same time limit as the actual test. This will help lower your anxiety the day of the exam.

#### **Can I use a formula sheet and/or scrap paper?**

- If you are not allowed to use a formula sheet, you will have to memorize the formulas and how to use them before the day of the exam.
- Some professors do not allow you to use scrap paper, they want to see all of your work on the exam. If this is the case, you will want to take your practice test the very same way.

**WARNING:** Do not cram the night before for a math test. "Pulling an all nighter" is not a good idea. This will give you test anxiety and you will not retain the content for long term use. You must give yourself ample time to study properly for a test, get plenty of rest the night before, and eat healthy to give your body the energy it needs.

Below are some tips that will make preparing for a test easier. Read through both of the following to decide which one will work best for you.

#### **Visual and Tactile Learners**

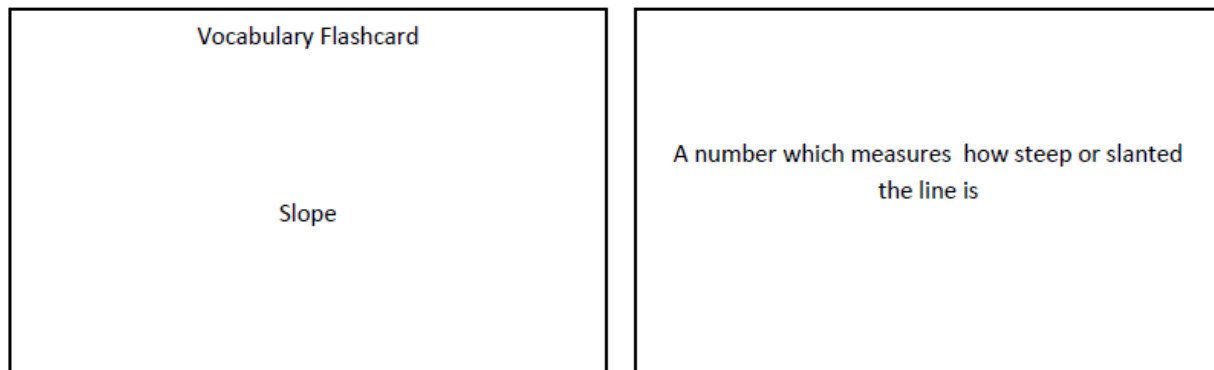
### Study Environment

- Find a comfortable place for you to work. Get rid of all distractions that would interfere with your studying.
- If you are going to be studying with other students, make sure you have chosen a group that will motivate you. The group should consist of one or two other people. Studying with a large group is usually more distracting than helpful.
- Make sure you have snacks and water with you before you start. Getting up and down to get something to eat or drink will only delay your studying. Also, food will give you energy while you study.
- Take small breaks every two hours or so. Studying math for hours on end will only exhaust and frustrate most students.

### A Week before the Test

- You want to start studying about a week prior to the test. This will give you an opportunity to ask the professor or other students about the content you do not understand.
  - Start by rewriting and organizing your notes. Highlight vocabulary and problems given during lectures, homework, and class work.
  - Create a formula sheet. If you can use it on your test, great! If you cannot, you will have a separate formula sheet you can study.
  - As a visual or kinesthetic learner, it will help you to write out the vocabulary and problems on flashcards. The vocabulary and problems you have highlighted in your notes will be what you write on them. You can also write the formulas to help you memorize them. On one side will be the vocabulary, formula name, or example problem. On the other side will be the definition, the formula and how to use it, or a detailed answer to the problem.

The examples below are taken from Math 082, Slopes of Lines. The card on the left is the front and the card on the right is the back.



### Formula Flashcard

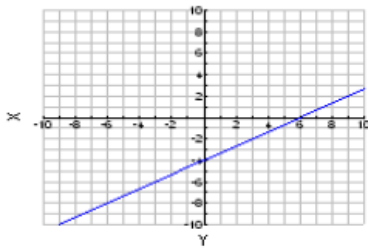
Calculate the Slope

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$

Example: Find the slope of the line that passes through the points (0,4) and (-1,2)

$$\frac{2-4}{-1-0} = \frac{-2}{-1} = 2$$

### Example Problem Flashcard



Find the slope of the graphed line.

- Choose any two points on the graph
- $\frac{\text{rise}}{\text{run}} = \frac{2}{3}$
- Decide if the line has a positive or negative slope: Positive
- Answer:  $\frac{2}{3}$

- You can use these flashcards to study by yourself or have someone else quiz you. You will want to write down your answer on a separate sheet of paper and match it with the answer on the back of the flashcard.
- After you have studied the material that is going to be on the test, you need to create a practice test. Look through all of your homework, book, and notes to find problems and vocabulary that will be on the exam. You want to use the same time limit, format, and number of problems the professor has told you will be on the actual test. Be sure to mix them up, do not go in order of the sections in your notes. Wait a couple of hours or a day to take it. You want to make sure you actually know the material.
- Any questions that you have about your notes or your practice test, ask the professor or other students **before the day of the exam**. This will give you the opportunity to go back, study and fully grasp the material you may have struggled with earlier.

## Auditory Learner

### Study Environment

- You want to find a comfortable place where you are free to talk out loud and you won't disturb others. As an auditory learner, you will learn more by reciting your notes and problems out loud.
- Most auditory learners are successful studying with a discussion group. You want to choose students who will motivate and encourage you to study. The group should consist of one or two other people. Studying with a large group is usually more distracting than helpful.
- Make sure you have snacks and water with you before you start. Getting up and down to get something to eat or drink will only delay your studying. Also, food will give you energy and keep you alert while you study.
- Take small breaks every two hours or so. Studying math for hours on end will only exhaust and frustrate most students.

### A Week before the Test

- You want to start studying about a week prior to the test. This will give you an opportunity to ask the professor or other students about the content you do not understand.
  - Start by reading out loud the notes you took in class.
  - If you recorded the lectures, listen to the ones that pertain to the test coming up.
  - You might want to record yourself going over the notes. This may help you organize the notes you have, only recording the important vocabulary and problems that are going to be on the test. Then listen to your own recording of the notes.
  - On a separate sheet of paper, write down the vocabulary terms and their definitions, in class examples, group work examples and homework examples. These will most likely mirror the problems on the test.
    - Vocabulary: Repeat the word and the definition out loud. Do this until you do not have to look at the word anymore to recite it. Study each term like this and then try to write all of them from memory.
    - Example Problems: Recite the steps on how to answer the example problems out loud. Then, write the steps and the answer down on paper. You can do this on your own or in a discussion group. It will be easier for you to learn the content if you can explain the problem to others and then write it down.
  - Create a formula sheet. If you can use it on your test, great! If you cannot, you will have a separate formula sheet you can study.

- After you have studied the material that is going to be on the test, you need to create a practice test. Look through all of your homework, book, and notes to find problems and vocabulary that will be on the exam. You want to use the same time limit, format, and number of problems the professor has told you will be on the actual test. Be sure to mix them up, do not go in order of the sections in your notes. Wait a couple of hours or a day to take it. You want to make sure you actually know the material.
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#### Review Questions

1. What is the key to lowering test anxiety?
2. What questions should you ask your professor before you start preparing for a test?
3. Is cramming a good way to study? Explain your answer.
4. What is your ideal studying environment?
5. Why is it a good idea to start studying a week before an exam?
6. How do you create a practice exam?