

How to Study Math

1. During Class

- Have your notebook open and your homework out at the beginning of class. From your syllabus, you should know what you will be doing in class each day.
- Correct homework with another color pen so that you will have a visual cue to revisit corrected problems before the next test.
- Take notes including formulas, rules, and examples. Your notes should be labeled as Class Notes with the section covered and the date. Think of these notes like you are writing a mini text book.
- Don't only write down what the teacher writes on the board. Also be sure to take notes on what is said in class.
- Be sure to ask questions in class and listen to questions that others ask.

2. Homework & Problem Sets

- Review – before you begin the assignment, review the ideas covered in class by highlighting key ideas in your notes, reciting back important ideas or formulas, and skimming the textbook sections, noting the summary boxes and examples.
- Label your homework with the section and date, page number, and problem numbers at the top.
- Survey the assignment before you begin. What are the different types of questions that are being asked? What makes the challenging questions more difficult?
- For each problem, carefully read the question, determine what you are trying to find, make a plan for solving it, and *write out* the problem and solution as you would on a test.
- If you are stuck, look for similar examples in your notes or textbook. After doing this you are still stuck, go to conference period or ask your teacher in class.
- Never leave a problem blank. Even for the most challenging problems, you should be able to put something down about what you know about the problem. You should at least draw a picture, write down the appropriate formulas or theorems.
- Check your answers in the back of the book. Put a check mark next to those that are correct and a ? next to those that are not.
- Work towards independence—try to do as much of the assignment as possible without looking up examples or formulas. The **Review** step should help with this.

3. Before Class

- Look at the syllabus to see what you will be doing in the next class meeting.
- Preview the section of the book that covers the new material to get familiar with the formulas or vocabulary in advance. Think about what you might already know or how this ideas seems to build on what you've recently learned. The Preview step sets up Velcro in your brain so that when your teacher begins to discuss the new material, there is a place for it to stick! Otherwise, your brain may tend to act more like Teflon, a non-stick surface.
- For classes with a video tutorials, treat them like a lecture.
 - (1) Take notes not only on what is written, but also on what is said. Think of these notes as creating your own mini textbook.
 - (2) After a worked example, stop the video and work the example on your own.
 - (3) Rewind the video often at the confusing parts.
 - (4) Ask your teacher to clarify any confusing parts.

4. Studying for a Test

- Begin with a study outline – a list of important concepts, formulas, definitions, rules, etc. It is important to wrap your brain around the scope of the material that your teacher will be testing over. The book can be your guide—usually the items that should go on this list are highlighted in some way in the chapter (shaded boxes, different size or color text, etc.). The text may also have a concept check or a chapter summary that would help you prepare your study outline.
- Look at your homework since the last test. Identify the areas for which you need the most practice by noticing the colored corrections and the ? marks that indicated you didn't get a solution the first time around. See if you can now correctly solve those problems.
- If there have been any other quizzes or tests over the same material, be sure you now know ho to solve any questions that you did not get correct.
- Practice, practice, practice. Be sure to do the teacher's review sheet, rework the examples in the textbook, and look for extra review problems at the end of the chapter. Be sure to practice the problems you know are challenging, not just the ones you know how to do. Be sure to mix up your practice to do a variety of problems together rather than focusing on just one type.
- Categorize problems – What kind of problem is it? What formula or technique will you use to solve it? Is this easy or hard? What is my plan of attack?
- Work towards independence. Can you do the review problems without looking up the formula or checking the text or notes.

- Plan your study time to include **distributed practice**. It is better to spread out your study time for a test rather than expect to get a lot out of a 3-hour cram session the night before. Instead, try studying in three or four 45-minute chunks.

For example:

- **1st 45 minute session** Make your study outline in one session and identify topics you need to review. This can, and probably should be done, before the night before the test.
- **2nd 45 minute session** Redo homework problems, quiz problems, or hand-outs from class that you had questions about. Finish the session with practice problems.
- **3rd 45 minute session** Practice problems.