

How to Read a Math Textbook



Math text typically alternates passages of explanation in English with pieces of mathematics such as example problems.

When reading explanatory material in a math text...

- Read every word, one word at a time.
- You can't catch the "drift" by skimming
- Every word counts (even 2-letter ones)

FORGET ABOUT SPEED READING!

- Take your time
- Make sure you understand each sentence before going on to the next
- Remember that familiar words may have different mathematical meanings you need to learn
- If you don't understand how a word is used, STOP and find out before going on
- Reread as many times as necessary from the beginning
- When reading math text, slower is better

When looking at mathematics (equations and numerical expressions)...

- See how each line follows from the line before
- Read any written explanations the author gives you
- Be sure you know where each line comes from before going on
- DO NOT SKIP STEPS!

Read with pencil and paper in hand:

- Reproduce examples as you go along
- Try to work out each line for yourself, step by step

Go over problems that the author has worked out in detail:

- Successful students rely heavily upon these
- Go through them until you understand every step

How to work a solved problem in the textbook:

- Work through the problem one step at a time
- Close the book and try to work it again on your own
- Repeat until you can reproduce the solution with the book closed
- Try NOT to memorize the solution
- Keep track of "what to do" to move from each line to the next

- It's okay if your version has more lines than the author's (it may take you two or three steps to accomplish what the author does in one). This is a good sign that you're thinking for yourself!
- Be patient! It's common to spend an hour or two on a single page. It's worth your time to learn the process!

After you can work through the solved problems on your own, the homework should be much easier since there will be similar problems. **Time spent on problems the author has solved for you will pay off in higher grades!**

Don't worry if the author or your instructor makes it "look easy." They work hard when you aren't looking! The author chooses "cleaned up" problems for his/her textbook. Teachers do the same thing when preparing for a lecture. Good math is messy! If you get really lost, scrap your work and start over on that problem!

You will not be expected to invent a new problem-solving technique on the exam. Concentrate on learning the processes shown you in the book and by your instructor.

Math texts with pictorial illustrations:

- Spend time studying any pictures
- Every line and symbol is there for a specific reason
- Take the time to understand the picture thoroughly—in detail
- Pay special attention to graphs and charts (lots of information in a small space)

You don't merely "read" a math textbook—you work through it! The information has to be dug out, not just skimmed over. It is a slow process, but it's the only way to really understand what the math text is trying to tell you!

The bottom line is to go slow when reading math text. It's not a race to see who finishes first but who understands most!

So be patient, remember that "slow is fast," and Enjoy Math Reading!