

Exam 1 Checklist

Here's are some things you can do to get ready for exam 1.

1. Go back through the homework. Ask yourself, "Do I really know how to do all of these problems on my own?" (Also use this homework review as an opportunity to make your notesheet).
2. Work through all of the old midterms in the exam archive. At this point, you should be doing these problems completely on your own. If you are working old exams with a tutor or with a study group or if you are looking in your notes, then you won't be ready for the exam. You need to work through old exams in an exam like situation without looking at the solutions. And you need to get to the point that you KNOW your answer is correct even without looking at the solution key.
3. As you work through old exams you should:
 - (a) Again, do the practice exams without help!
 - (b) Do the practice exam in less than 50 minutes (time yourself).
 - (c) Identifying quickly what the first step of the problem is and writing down everything you know. (No problem should be left blank!)
4. Read through my review sheets and your lecture notes so you can remember my advice about how to work and think about the concepts and problems.
5. For more practice, do problems from the textbook from section 9.3 - 9.9 (there are lots more problems in those sections for you to practice). And you can do problems from the review problems at the end of chapter 9.

Here is a quick checklist of the topics.

1. What do $f(x)$, $\frac{f(b)-f(a)}{b-a}$, and $f'(x)$ all represent? (9.3-9.9)
2. How to we get average rates (slopes of secants) and instantaneous rates (slopes of tangent) by approximating from a graph? (9.3-9.4)
3. Be able to translate from notation to graphs to English interpretations. (9.3-9.9)
4. Be comfortable working with average rate expressions. (9.3-9.6)
5. Know how to find $f'(x)$ by using $\frac{f(x+h)-f(x)}{h}$ and understand the underlying concepts. (9.3-9.6)
6. Know the basic applications (speed from distance, MR/MC from TR/TC) and the basics of how to interpret. (9.3-9.9)
7. Know all the derivative rules! (9.5-9.7)
8. Know how to find the equation of a tangent line (9.5-9.7)
9. Be able to compute a second derivative (9.8)
10. Know how to work with basic business and distance scenarios and be able to go between 'original' graphs and 'derived' graphs. (9.3-9.9, with emphasis on 9.9).
11. Know your basic algebra, how to work with functional notation, how to rewrite powers, how to solve basic equations (including quadratic), how to work with fractions, and all the other basic skills you have been using in your homework. (9.3-9.9)