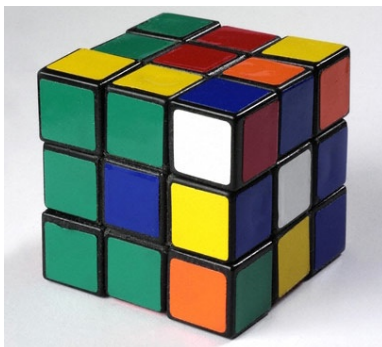


# Math 213 Final Exam Review of total relaxation.

By: The Rubik's cube on Corey's desk

June 5, 2008



*Hi kiddies! Time for the final exam review sheet! The final exam for your class is Thursday, 6/12/08, from 6-7:50 PM in our classroom. I hope the following is helpful to you as you plan for your final exam! ROCK ON!*

1. Section 7.2: The Disk Method. This section is great. Corey recommends that you study how to revolve regions about the coordinate axes *and* other axes as we did in class. He suggests that you will be responsible for knowing how to do each (or either) on the final, and so review carefully these notes, and practice with the homework problems.
2. Section 7.3: The Shell Method. This section essentially asks you to compute volume of solids of revolution, as you did in the previous section, but by a different method: using shells rather than disks. A complete understanding of the shell method is helpful, but Corey suggests strongly that he won't ask anything about revolutions of regions about anything other than coordinate axes, in contrast to what is likely to be asked from Section 7.2.
3. Section 10.3: Parametric equations and calculus. This section featured an introduction to certain methods of calculus applied to parametrically defined curves. Two quantities were of interest: computing the slope (and then equation) of the tangent line to a parametrically defined curve, and the arc length of a parametrically defined

curve. Each of these quantities were computable in terms of differentiation and integration, and the best part about these formulae is the fact that if you forget them, they are not so hard to reformulate on your own! Practice the homework problems, and especially those skills Corey taught in class.

4. Section 10.4: Polar coordinates. In this section we broadened our horizons and began to describe the two-dimensional plane in terms of a pair of other numbers,  $(r, \theta)$ . I would know how to translate from polar coordinates to rectangular coordinates, and understand the reverse process, in particular, the redundancies that this process produces.
5. Other comments regarding the final. The final exam will be roughly as long as two exams. So I would practice with a clock as you practice problems so that you don't run out of time during the actual final exam. The material will be cumulative, and Corey will ask roughly the same sorts of questions that you've seen before about previous material... there isn't so much new material (since the last quiz) that will be too hard to decode what I'll ask about, especially if you read the rest of this handout. Other than that, good luck, and ROCK ON!