Math 163A **Winter 2007** **Guide for the Final Exam**

The final exam is Wednesday 14 March, at 2:30pm, in our classroom. This is also the final deadline for any late good problems.

The exam is cumulative, but there will not be any questions specifically from Chapters 1 and 2, which were the subject of test 1. The other tests and their study guides give good sample questions for the sections they covered.

Here are some sample questions from Sections 9.3 and 9.4, which we covered after the last test.

1. Let $f(x, y) = x^2 + xy + y^2 - 6x$. Find all extrema of f and identify any saddle points.

2. Use Lagrange multipliers to find the minimum of $f(x, y) = x^2 + 2y^2 - xy$ subject to the constraint $x + y = 8$.