MA 1024. FINAL EXAM GUIDE

Some facts about the final exam:
- The final will cover Chapter 13 and Section 12.5
- Most of the questions are taken directly from the homework (assigned problems) or the webwork.
- Since questions from section 13.9 did not appear on any homework, please take a look at the following problems:
  Section 13.9: 2, 3, 6, 11
- Some questions will ask you to set up, *but not evaluate*, certain integrals. Read each question carefully.

You should definitely know:
- how to find global extreme values of functions of two variables, on a bounded plane region, or at an interior point if the surface opens upward or downward (how can you tell?).
- how to integrate in rectangular, polar, cylindrical and spherical coordinates.
- how to sketch regions of integration, and change the order of integration if necessary.
- how to sketch the basic shapes of surfaces, in particular: planes, cylinders, parabolic cylinders, paraboloids, spheres, and cones. See the review sheet on the course website.
- how to compute area, volume, mass, centroid, moments of inertia, and surface area using double and triple integrals.
- how to compute the Jacobian of a coordinate transformation.

Good luck!