Math 253: Homework 5

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The problems can be found on Apex Calculus V3 vol 3. (Make sure you use V3 and not the new V4).

The HW consists of 8 problems.

- Section 13.4 problems 16, 24 and 28.
- Section 13.5 problems 8 and 12.
- Section 13.6 problems 10 (just give the order $dxdydz$) and 22.
- Suppose the earth is a sphere of radius R. Compute the average distance from the north pole to a point in the surface. <u>Hint</u>: in spherical coordinates the surface of the earth is easily described. Integrate the distance from the north pole in spherical coordinates (you just need to integrate in θ and ϕ) and then divide by the surface of the sphere $(4\pi R^2)$.

The solutions are due on paper on Thursday 21 at the beginning of the lecture. Make sure you write your name and student number in the assignment.
If for any reason you cannot hand in your assignment on the due date, either hand it before, or send a high quality, readable and low weight [< 1Mb] scan to my e-mail **before** the due date.
Good luck!

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