Problem Set 2   **Calculus 3**   **Due 12/17/10**

The old version:

Project 1   **Calc 3**   **Due 11/13/2006**

The basic idea:

Build or find an interesting surface and measure something about it.

A little more detail:

Using materials of your choice, actually construct or obtain a surface (probably the graph of some function of two variables, but I'm very willing to consider other options). You get to pick the surface, the materials, everything. Once you've got it, measure something about it that has relevance to what we've done -- a directional derivative at some point, the direction of a gradient, volume, surface area, or whatever else interests you.

Ideally, you should measure two different ways: First, physically measuring the actual object, and second, using calculus. Compare the answers you get these two different ways.

What actually to turn in:

!   Your surface, if it's transportable, otherwise a photograph or other likeness of it
!   A brief writeup describing:
  - How you made it
  - How you made it conform as closely as possible to the formula (or whatever it was you were trying to represent)
  - How your measurement was carried out and how accurate you think it was

Grading:

▸   Up to 10 points for the ambitiousness of the project
▸   Up to 10 points for how well it was carried out (including accuracy)
▸   Up to 10 points for how well it is written up

The New Version:

[50 points possible] Conceive and execute an ambitious project using what you've learned in Calc 3. You should probably run your idea past Jon as soon as possible. You should turn in a complete writeup of your project, along with any other suitable artifacts.