Problem Set 1 Calculus 3 Due 10/11/13

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points for correct and clearly justified answers.

1. Use a double integral (in rectangular coordinates) to find the volume of the solid bounded between $z = a^2 - x^2 - y^2$ and the xy-plane.

2. Use a double integral to find the volume of the solid with rectangular base of length l and width w, but extending up from that base in such a way that the four vertical edges are of lengths a, b, c, and d, with the top surface being a plane.