

Math 212: Assignment 3

Due 6/18/2008

These problems are due with work shown by the beginning of class.

Sec 3.1 #1,3,6,12,19

Sec 3.3 #1,10,23

Sec 3.4 #1,3,5,12,13

Sec 4.1 #19

Sec 4.2 #1,2,3,8,9

Here are some hints:

- For Sec 3.3 #23, think of x, y, z as the lengths of respective sides to the box. What does it mean then to have a constant volume (say V) in terms of x, y, z ? Use the equation you find to express z in terms of x, y . Now you can define $f(x, y)$ as the function of the surface area of the box (be careful that this formula is correct). Now you can perform the **Second Derivative Test For Two Variables** to calculate extrema.
- For Sec 3.4 #12, think along the same lines as Sec 3.3 #23.