

## Math 1100 Homework Chapter 7

**Test Corrections:** You may do test corrections for half the points you missed back. Detailed work must be shown. I must be able to tell that you really understand the problem. **All** missed problems must be correctly corrected to get the half points back. Bonus problems don't count. Late corrections are not accepted. **You must have me look them over ahead of time.** Due Monday, April 16. Please have the corrections completed when you bring them to me to look them over, as my role is to double check them, rather than go through a lot of the problems with you. Sorry—I just don't have the time to do the latter.

### Hw 7.1:

- A. Read the above paragraph about the test correction policy. Put a check to show you did it.
- B. What is a function?  
pg 390: 1,4-7,10,11,14
- C. What is a level curve?  
pg 391: 16,17,20-26
- D. Create your own multivariable function that is applicable to real life. Define each variable. You don't have to have a formula, although it's nice if you do. The function must be your own—not one we used in class, not one you got from the book or a tutor or a friend etc.  
Example: Let  $f(I,M,D,C)$  be the amount of income tax I pay.  $I$  represents my income,  $M$  represents my marital status,  $D$  represents the number of dependents I have, and  $C$  represents the amount of charitable donations I give.

### Hw 7.2:

- A. Give two notations for partial derivatives.
- B. What do partial derivatives represent graphically?  
pg 399-400: 2,5,10,13,14,16,20,22,24
- C. Given a production function  $f(x,y)$  where  $x$  is units of labor and  $y$  is units of capital, what is the marginal productivity of labor?  
pg 400-401: 25,27-29,31,33,36

### Hw 7.3:

- A. True or False? If  $f_x = 0$  and  $f_y = 0$ , then a maximum or minimum occurs.  
pg 408-409: 3,6,8,11,16,19,26,28-30,32

### Hw 7.4:

- pg 418-419: 3,6,8,13,15-17,21

### Hw 7.5:

- A. Why do we square the error?  
pg 425-426: 1,4,6,9,12,13
- On 12 & 13, use Excel for part a. Print out your chart that will have all sorts of beautiful things on it, such as a title, labels, and the equation of the best fit line. You must do your own. Do not have someone do it for you. On 13, ignore the hint.

Hw 7.6 to be handed out later.