

Math 100
Fall, 2008

Name _____

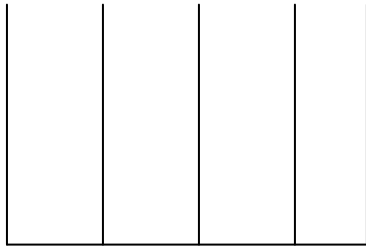
Homework #11

Due Thursday, October 23

No late homework accepted! No exceptions!

1. Lisa Ventura bakes cakes and sells them at country fairs. Her initial cost for the Washington Parish fair was \$40.00. She figures that each cake costs \$2.50 to make, and she charges \$6.50 per cake. Let x represent the number of cakes sold.
 - a) Express the cost C as a function of x . **2 points**
 - b) Express the revenue R as a function of x . **2 points**
 - c) Determine the value of x for which the revenue equals the cost. **3 points**
 - d) Graph the cost C and the revenue R on the same axes. Interpret the graph. **3 points**

2. A farmer has 200 meters of fencing to fence in 4 rectangular pens with one side bordering on the river. (See picture).



- Find a mathematical model for the total enclosed area.
- Sketch the graph.
- State your domain.
- Find the dimensions that will maximize the area.
- Find the maximum area.