QUIZ 4 - MATH 111 YOUR NAME:

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

- 1. The owner of a motel with 30 rooms provides discounts for groups renting multiple rooms. One room rents for \$85, two rooms for \$83 each, three rooms for \$81 each etc.
 - (a) If your family (including grandparents) are going to rent 3 rooms as a group, how much will your total bill be?
 - (b) What is the price p per room if a group rents N rooms?
 - (c) What is the total revenue R for the hotel, when a group rents N rooms?
 - (d) Graph the revenue R of the previous part as a function of the number N of rooms rented by a single group. Take special care of your window settings showing them clearly on your graph.

(e) How many rooms to a single group of visitors would maximize the revenue of the hotel from that single group? Please, explain.