Calculus I	Name:
TA/classroom:	Student ID:

Quiz 8Dec. 12, 2007

1. (10 pts) An automobile dealer is selling cars at a price of \$22,000. The demand function is $D(p) = 2(30 - 0.001p)^2$, where p is the price of a car. Should the dealer raise or lower the price to increase the revenue? What is the price that makes the maximum revenue? (Revenue function: $R(p) = p \cdot D(p)$)

2. (10 pts) For a small company spending x thousand per year in advertising, suppose that annual sales in thousands of dollars equal $s(x) = 80 - 20e^{-0.04x}$. If the current advertising budget is x = 40 and the budget is increasing at a rate of \$1500 per year, find the rate of change of sales.