MATH 182 QUIZ #11

SHOW ALL WORK NEATLY WHERE APPROPRIATE

1. Let $Q(p) = 5p^2 - 8p + 8$ represent the units of an air pollutant when the population is p. If the population is currently 6200 people, and if it's increasing at a rate of 80 people per year, at what rate is the level of pollution increasing?

Answer: 4,959,360 units/year

2. In fencing in a rectangular region, the unit cost on the length is \$2/m, and the unit cost on the width is \$9/m. If the AREA must be 882 m^2, find the dimensions of the rectangle that will minimize the total cost.

Answer: Length: 63 m

Width: 14 m