6.1 - Absolute Extrema

Course: Math 116 - 16
Due: March 30, 2017
Name:

44 A company has found that its weekly profit from the sale of x units of an auto part is given by

$$P(x) = -0.02x^3 + 600x - 20,000.$$

Production bottlenecks limit the number of units that can be made per week to no more than 150, while a long-term contract requires that at least 50 units be made each week. Find the maximum possible weekly profit that the firm can make.

46 Find the minimum value of the average cost for the given cost function $C(x) = 81x^2 + 17x + 324$

(a) On the interval $1 \leq x \leq 10$

(b) On the interval $10 \leq x \leq 20$