

Name: _____
Student ID: _____

Quiz 11

This quiz is graded out of 15 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. §4.5 #14 (5 marks) For its beef stew, Betty Moore Company uses aluminum containers that have the form of right circular cylinders. Find the radius and height of a container if it has a capacity of 36in^3 and is constructed using the least amount of metal.

Question 2. §4.4 #61 (5 marks) The quantity demanded each month of the Sicard wristwatch is related to the unit price by the equation

$$p = \frac{50}{0.01x^2 + 1} \quad (0 \leq x \leq 20)$$

where p is measured in dollars and x is measured in units of a thousand. To yield a maximum revenue, how many watches must be sold?

Question 3. §4.3 #39 (5 marks) Sketch the graph of the function:

$$h(x) = x^3 - 3x + 1$$