Math 1400 Fall 2011
Quiz 5
October 5, 2011
No Work = No Credit

Name: _____ **Student Number:** _____

1. A pharmacist wants to establish an optimal inventory control policy for a new antibiotic that requires refrigeration in storage.

   The pharmacist expects to sell 800 packages of this antibiotic at a steady rate during the next year. She plans to place several orders of the same size spaced equally throughout the year.

   The ordering cost for each delivery is \$16, and carrying costs, based on the average number of packages in inventory, amount to \$4 per year for one package.

   (a) (2 points) Let x be the order quantity and r the number of orders placed during the year. Find the inventory cost (ordering cost plus carrying cost) in terms of x and r.

   (b) (1 point) Find the constraint function.

   (c) (2 points) Determine the economic order quantity (x) that minimizes the inventory cost, and then find the minimum inventory cost.

...show all work...show all work...show all work...show all work...show all work...show all work...