Homework 5

Due: 6-26-14

1. Suppose x and y are positive integers such that the sum of x^2 and y is $10x$. Find the values of x and y which maximize the square-root of the sum of $2x$ and y.

2. An open-top box is to be made by cutting small congruent squares from the corners of a 12in.$\times$12in. sheet of metal and bending up the sides. How large should the squares cut from the corners be to make the box hold as much as possible?

3. Determine the dimensions of the rectangle with fixed perimeter, P, having the largest area possible. (Your solution will be in terms of P!)