MATH 422   Week 5 Quiz   Name_____

Date_____

Directions: Answer each question to the best of your ability. Feel free to use a graphing tool of your choice to graph each of these equations yourself. You are free to use your resources (without discussing with others in the class) to help guide your thinking.

Let "x" be the quantity of custom t-shirts made by a small business owner. The cost to produce t-shirts is given by the formula $y = C(x) = 0.015x^2 + 50$ and the owner makes \$4 for every t-shirt sold. The revenue formula, then, is $y = R(x) = 4x$

Profit = Revenue – Cost

The profit equation is: $y = P(x) = 4x - (0.015x^2 + 50)$ $which\ simplifies\ to$:

$$P(x) = 4x - 0.015x^2 - 50$$

Here is a graph that shows cost, revenue and profit all on the same graph: