QUIZ 2 - MATH 112 Friday, January 29

YOUR NAME:_____ George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Consider the quadratic equation $f(x) = -x^2 + 6x - 5$.

   (a) Find the location of its vertex.

   (b) Find the $y$-intercept (in point form).

   (c) Find the $x$-intercepts (in point form).

   (d) Sketch the graph $y = f(x)$.

2. When $x$ units of a certain commodity are produced and sold, the cost amounts to $C(x) = 10x + 200$ and the revenue is given by $R(x) = -x^2 + 20x + 400$.

   (a) Find the break-even point(s) of the operation.

   (b) How many units should be produced to maximize the profit?