QUIZ 8 - MATH 111 Friday, April 8

YOUR NAME:_____ George Voutsadakis

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

1. [4 points] A population of a certain town was 52,000 in the year 2000 and is increasing at the rate of 0.2% per year.

   (a) Find a formula $P(t)$ for the population as a function of time t (please, explain clearly the meaning of your variables).

   (b) What is the population predicted to be in 2025 according to the model of Part (a)?

2. [4 points] An exponential function $y = f(x)$ passes through the points $(-3, 54)$ and $(2, 18)$. Find a formula for f (please, show all your work).

3. [4 points] How much should be deposited now in an account yielding 2% compounded quarterly so as to have \$50,000 available in the account in 20 years' time?