

QUIZ 7 - MATH 111

Friday, April 5

YOUR NAME: _____

George Voutsadakis

Read each problem **very carefully** before starting to solve it and do only what is asked. 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] You dad is expecting some financial difficulties down the road because of increasing inflation. He wants to deposit an amount in a bank account yielding an annual rate of 4% compounded monthly so as to have savings of \$20,000 in 10 years time. Can you help him decide how much he should be putting now on that account? (Please, show all details.)

2. [8 points] Use a small table of values (as done in class) to sketch the graph of $f(x) = 4^x$.

Show all transformations involved, leading from $y = f(x)$ to $g(x) = \frac{1}{2} \cdot 4^{x+1} - 3$.

$$y = 4^x \longrightarrow (\quad \quad \quad)$$

$$\longrightarrow (\quad \quad \quad)$$

$$\longrightarrow (\quad \quad \quad)$$

Carefully move all important features of the previous graph, using the transformations you came up with, to obtain the graph of $y = g(x)$. Show all moved points in a table.