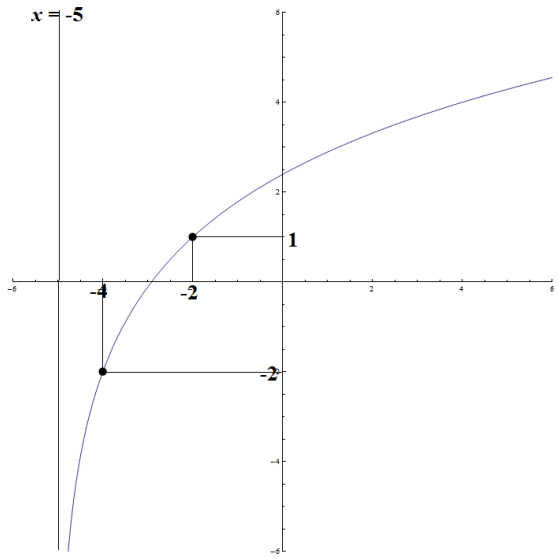
QUIZ 10 - MATH 111 Friday, November 18

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] The following graph shows a transformed version of the logarithm with base 3. Find an equation for the function whose graph is shown.



2. [4 points] Use properties of logarithms to expand or condense the following expressions (as appropriate):

   (a) $\log_7\left(\dfrac{x^3(2x+1)}{\sqrt{y}}\right) =$

   (b) $5\log(x+2)+\frac{1}{2}\log y-3\log z =$

3. [4 points] Solve the logarithmic equation $\log_6(x-6) + \log_6(x-1) = 2$.