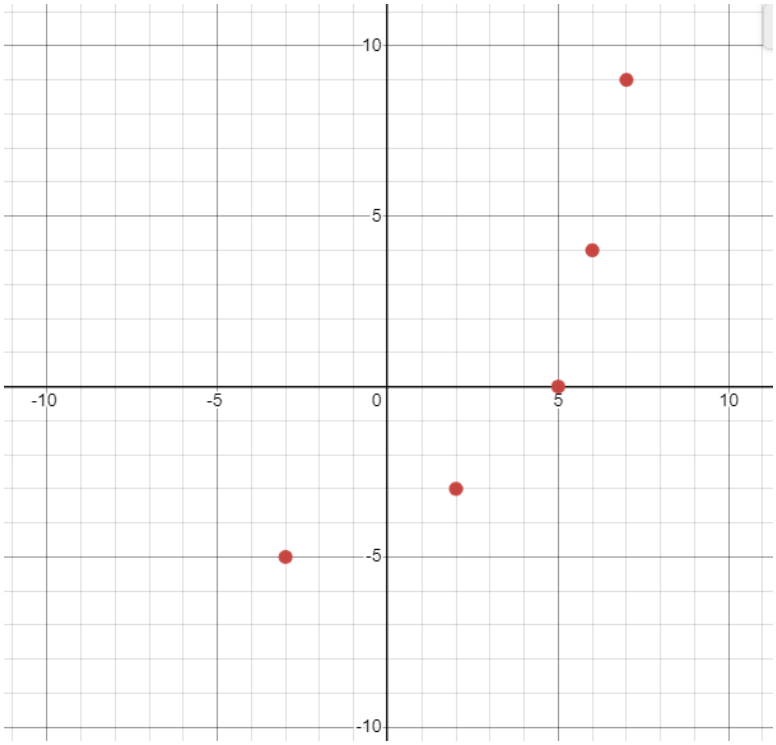
QUIZ 4 - MATH 111 Thursday, September 28

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] A function f is determined by the formula $f(x) = \dfrac{x}{x-1}$ and a function g is determined by the graph given below.



   (a) On the same system of axes, plot the graph of $y = g^{-1}(x)$.

   (b) Find a formula for $y = f^{-1}(x)$.

2. [4 points] Suppose a linear function f satisfies $f(3) = 5900$ and $f(12) = 3600$. Find a formula for the function **showing all steps**.

3. [4 points] A line L_1 passes through the points $(-27, 10)$ and $(3, 85)$. Find an equation for the line L_2 that is perpendicular to the line L_1 and passes through the point $(-5, 3)$ (Please, **explain all steps**).