Name_____

MAT21A Written Assignment
Due Wednesday, 11/2

Read, **R**eflect, and **R**eact (or Respond) **P**rompt #8

Many functions encountered by scientists are too complicated to have an explicit inverse. In this case, we mathematicians are limited to showing an inverse exists by invoking existence theorems. From here, we rely on implicit differentiation and the general chain rule to analyze the derivative of the inverse function. Since we just finished our discussion on inverses, I would like you to find the inverse (a.k.a. archenemy) of our class mascot, M(x), by doing the following (Do not worry about M(x) being 1-1):

1. Solve for the inverse of all the individual composite functions that make M(x) along with the inverse of the function M(x) itself. Compute the derivative of all the composite function inverses. Then, use these to compute the shorthand version of the derivative of the inverse of M. This is an exercise in using the general chain rule.

(in memory of Dr. Silvia)