MATH141(0332) Calculus II

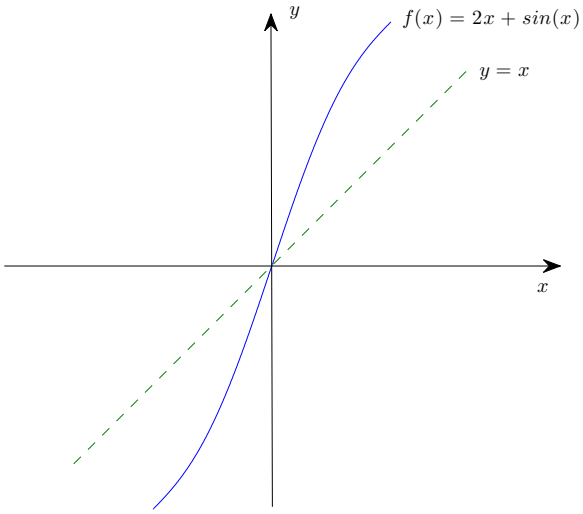
Quiz 3, Tuesday, September 23, 2008 Name: _____

Show all work clearly and in order, and circle your final answers. Justify your answers algebraically whenever possible. Calculator is not allowed in this quiz. You have 10 minutes to take this 10 point quiz.

Let $f(x) = 2x + sin(x)$.

1. (*3 points*) Prove that $f(x)$ has an inverse in $\mathbf{R}$.

2. (*3 points*) The graph of $f(x)$ is provided below. Put on a sketch of the function $f^{-1}(x)$ on the same graph.



3. (*4 points*) Find the value of $(f^{-1})'(2\pi)$. (Hint: Have you noticed $f(\pi) = 2\pi$?)