

Math 3 Written Homework due Friday, October 20

Let $f(x) = \sin(\sin(x))$. What is the maximum value $f(x)$ takes on the interval $[0, 2\pi]$? At what value(s) of x does this occur?

Things you may wish to think about while writing this up:

- How do we know there's a max?
- Is the derivative always defined (that is, does it makes sense to talk about it on $[0, 2\pi]$)?
- How do you determine where the max might be?
- How do you know there are no others?

All the work on this homework is mine. I have written it on my own and in my own words. I have acknowledged in writing anyone with whom I have worked or from whom I have received help.

Signature