

Name: _____

Quiz 4

Math 251

You have 20 minutes to complete **both sides of** this quiz. When you're finished, first check your work if there is time remaining, then turn it in. You may use your class notes (i.e. not the online notes), and a scientific calculator, but not a graphing one. You may not consult other people or the internet. **Show all your work.**

1. (4 points) What is a function $f(x)$ (other than $f = 0$) that is its own derivative?

2. (8 points) Find $\frac{d}{dt}[\ln(\sin(5t))]$.

- 3.** (8 points) Let f be a function such that $f(1) = 2$ and $f'(1) = -3$. Let $g(x) = 4^{f(x)}$. Find $g'(1)$.