

Name: _____

Math 106

Quiz #9

April 9, 2018

- This is a closed-book quiz. No books, notes, calculators, cell phones, communication devices of any sort, or webpages, or other aids are permitted.

1. [10 points] Find the function $f(x)$ that satisfies $f'(x) = \frac{e^x + \cos x}{\sqrt{e^x + \sin x}}$ and $f(0) = 5$.

2. [10 points] Compute $\int_4^9 \frac{1}{\sqrt{x} e^{\sqrt{x}}} dx$

3. [10 points] Compute $\int \frac{2}{e^{2x}(e^{-2x} + 2)^2} dx$

4. [10 points] Compute $\int \left(e^{3x} + \frac{1}{e^{8x}} \right)^2 dx$

BONUS [2 points] Compute the derivative for $y = \frac{1}{\tan(e^x + \sqrt{x})} + \frac{1}{e^{\sec \sqrt{x}}} + \frac{1}{\sqrt{e^{\cos x} + 9}}$.