_____ / 15 total points

Quiz #3

Name: _____

Math 180, Section 7, Prof. Beydler

Thursday, November 9, 2017

Directions: Show all work. No books or notes. A **scientific calculator** is allowed. Your desk and lap must be clear (no phones, no smart watches, etc.). If you have a phone in your lap or on your chair, it is considered cheating, and you will receive a zero on this test. Write your answers in the indicated places, or box your answers. Good luck!

1. (3 points) Find the absolute maximum and minimum values of $f(x) = xe^{-x}$ on the interval $[0, 3]$.

Absolute maximum value: _____

Absolute minimum value: _____

2. (5 points) A right circular cylinder is inscribed in a cone with height 3 and base radius 2. Find the largest possible volume of such a cylinder.

Dimensions: _____

3. (3 points) Find the most general antiderivative for $f(x) = 2\csc x \cot x + \cos 3x - \frac{4}{x} + \sqrt{x} - 5^x$.

Answer: _____

4. (4 points) $\int e^{2\cos x} \cdot \sin x \, dx$

Answer: _____