_____ / 15 total points

Quiz #3

Name: _____

Math 180, Section 5, 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 $f(x) = x \ln x$ on the interval $[0.1, 2]$. Round your answers to 2 decimal places.

Absolute maximum value: _____

Absolute minimum value: _____

2. (5 points) Find the largest possible volume of a cylinder that's inscribed in a sphere of radius 2.

Largest volume: _____

3. (3 points) Find the most general antiderivative for $f(x) = 5\sec^2 x + \sin 3x + \frac{2}{x^2} - \frac{4}{\sqrt[3]{x}} + 2^x$.

Answer: _____

4. (4 points) $\int 3xe^{x^2+2}\,dx$

Answer: _____