MATH 106B,C - CALCULUS II  
FALL 2011

QUIZ 2

NAME:

Show ALL your work CAREFULLY.

(a) Consider the following given data of a function \( g(x) \) on the interval \([2, 10]\).

\[
\begin{array}{c|cccc}
 x & 2 & 4 & 6 & 8 & 10 \\
g(x) & 4 & 2 & -1 & 0 & -1 \\
\end{array}
\]

Find \( T_4 \) (trapezoid). Here the subscript \( n \) indicates that the interval \([2, 10]\) is to be divided into \( n \) equal subintervals.

(b) Consider the region bounded by the \( y \)-axis and the curves \( y = e^{-x+1} \) and \( y = \sqrt{x} \). SET UP the definite integral that represents the area of this region. [Hint: Sketch the region; find the points of intersection; set up the definite integral.]

(c) Find the exact area of the region described in part (b), that is, evaluate the definite integral you set up in (b).

\[ Date: \text{September 19, 2011.} \]