MATH 190, QUIZ 5
Nov 19, 2018
Time: 15 minutes

Show all your work. No calculators, no books/notes are allowed.

Last Name Initial only: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

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1. [4 marks] TRUE/FALSE: Justify your answer by mathematical computations, a picture or an explanation.

    (a) If we compute the Right Riemann sum on an interval $[a, b]$ for the function $y = e^x$, it is always an underestimate.

    (b) $\int_0^\pi (\cos x + 2)dx = 2\pi$

2. (a) [5 marks] Find the most general anti-derivative of $f(x) = \dfrac{3}{\sqrt{x}} - 4e^x + 5x^2 - 1$.

(b) [3 marks] Find one particular anti-derivative $F(x)$ for the function $f(x)$ in part (a) such that $F(0) = 1$.