

Total score: 11 points

March Boedihardjo © 2021

- Write your solutions on some papers. Scan as a pdf/jpg file(s). Upload the pdf/jpg file(s) as CCLE Assignment Quiz 1 before the end time.
 - Open book. You may use calculator. But you cannot get any help from other people.
 - Unless specified otherwise, you may compute any integral using Fundamental Theorem of Calculus without using the definition involving Riemann sum.
1. (5 points) (i) What is the n th Riemann sum of $f(x) = e^{3x}$ on $[0, 1]$ using right endpoints? Do not leave a sum like $1 + \dots + n$ in your final answer.
(ii) Calculate $\int_0^1 e^{3x} dx$ by taking limit of n th Riemann sum as $n \rightarrow \infty$.
(You cannot use Fundamental Theorem of Calculus.)
 2. (3 points) Find $S_{4,2}$ for $\int_{[0,2] \times [0,3]} x + y^2 d(x, y)$ using upper-right vertices. It is fine if you use fractions and decimals in your solution.
 3. (3 points) Find $\int_{[0,2] \times [0,1]} (x + y)^9 d(x, y)$.

End of exam