

MS-A0111 - Differential and Integral Calculus 1, 07.09.2020-21.10.2020

Started on	Sunday, 27 September 2020, 4:33 PM
State	Finished
Completed on	Sunday, 27 September 2020, 4:33 PM
Time taken	28 secs
Marks	3.00/3.00
Grade	10.00 out of 10.00 (100%)

Question 1

[Flag question](#)Mark 1.00 out of 1.00Correct

Select all practical numerical quadrature rules.

Select one or more:

- ☒ a. Riemann sum. Slow convergence, but yes, it can be used.
- ☒ b. Trapezoidal rule. Linearisation of a function in play.
- ☒ c. Midpoint rule. Miracle of symmetry.

Your answer is correct.  
The correct answers are: Riemann sum., Trapezoidal rule., Midpoint rule.

Question 2

[Flag question](#)Mark 1.00 out of 1.00Correct

Consider  $\int_{-1}^1 |x|dx$  and the trapezoidal rule  $T_2$ . How large is the error?

Select one or more:

- ☐ a. 0.132
- ☒ b. No error, it's exact! Yes, indeed.
- ☐ c. 1/2

Your answer is correct.  
The correct answer is: No error, it's exact!

Question 3

[Flag question](#)Mark 1.00 out of 1.00Correct

Consider  $\int_{-1}^1 |x|dx$  and the midpoint rule  $M_3$ . Is the method exact?

Select one or more:

- ☐ a. Yes.
- ☒ b. No. Given three intervals, in the middle one the assumptions on the bound are not satisfied.

Your answer is correct.  
Given three intervals, in the middle one the assumptions on the bound are not satisfied.  
The correct answer is: No.

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