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We hereby declare that we have created this work completely on our own, used no unauthorized assistance has been received or given in the completion of this work, and we have marked any citations accordingly.

Arlan Vincent Uy, Jules Gerard Juico, 21 May 2019



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| h | Error trapezoidal | Error trapezoidal / h^2 | error simpson’s | error simpson’s / h^4 |
| 0.05 | -3.3268958604e-05 | -0.013307583441 | 2.222222222e-09 | 0.0003555555555 |
| 0.0277 | -5.7045539445e-06 | -0.007393101912 | 1.176047764e-10 | 0.0001975308641 |
| 0.0192 | -1.8928629155e-06 | -0.005118301323 | 1.870340794e-11 | 0.0001367521367 |
| 0.0156 | -1.0152880433e-06 | -0.004158619825 | 6.622738308e-12 | 0.0001111111111 |

1. As seen from the table above, composite Simpson’s rule has a smaller error in approximation than the trapezoidal rule. The approximation of composite Simpson’s rule converges relatively faster to the exact value than the composite trapezoidal rule as the number of interval increases.