

Learn the material: "Trapezoidal and Simpson Rules.pdf". Write a program to do integration of $\sin(x)$, from 0 to π , with Trapezoidal and Simpson Rules. We all know the accurate result is 2.

Please report your results in a table:

Number of Intervals	Trapezoidal Rule Result	Error	Convergence Order	Simpson Rule Result	Error	Convergence Order
N = 20						
N = 40						
N = 80						
N = 160						
N = 320						

Convergence order can be calculated by $\ln(\text{Error}_1/\text{Error}_2)/\ln(2)$.

Please zip your code and report and submit to Blackboard.