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**P. 204 #7** Determine the values of *n* and *h* required to approximate:

to within .

a. Use the Composite Trapezoidal rule.

b. Use the Composite Simpson's rule.

Answer:

1. For composite Trapezoidal rule, its error function is defined to be:. Thus, we can derive the error bound as: .

To maximize , we require . Therefore, .

We then have:

1. For composite Simpson's rule, its error function is defined to be:

Similarly, we have: .