Prelim Summer 2017, Q2 5894 3710 0798 9034

Part 5

$$\text{Error} = IN - I$$

$$IN - I = 2\pi \sum_{m=1}^{\infty} a_{mN}\, \frac{1}{1}$$

$$\text{Trapezoidal Error} = 2\pi \sum_{m=1}^{\infty} a_{mN}\, \frac{1}{1}$$

where

$$a_{mN} = a_K = \frac{1}{\pi} \int_0^{2\pi} \left(e^{\cos(x)}\right)\left(\cos(Kx)\right) dx$$

- See attached Matlab code Q2_Part_5.m
- See attached excel spreadsheet Prelim_Summ_2017_Q2.xlsx
  with $N = 3$ $m = 1, 2, 3, \ldots, 10$
  and $N = 4$ $m = 1, 2, 3, \ldots, 10$
  Includes plots of trapezoidal error vs. m