

Exercise 01.

Let $x = \pi/2$, write Python code that computes the following expression, for $N = 16$ and $M = 16$

$$\pi/2 - \sum_{n=0}^N \left\{ \frac{(2n)!}{4^n (n!)^2 (2n+1)} \left[\prod_{m=1}^M 1 - \frac{x^2}{\pi^2 (m-1/2)^2} \right]^{2n+1} \right\}.$$

Comment and explain your solution/code.