

# Assignment-2

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2021101113

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Science - II

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Q2

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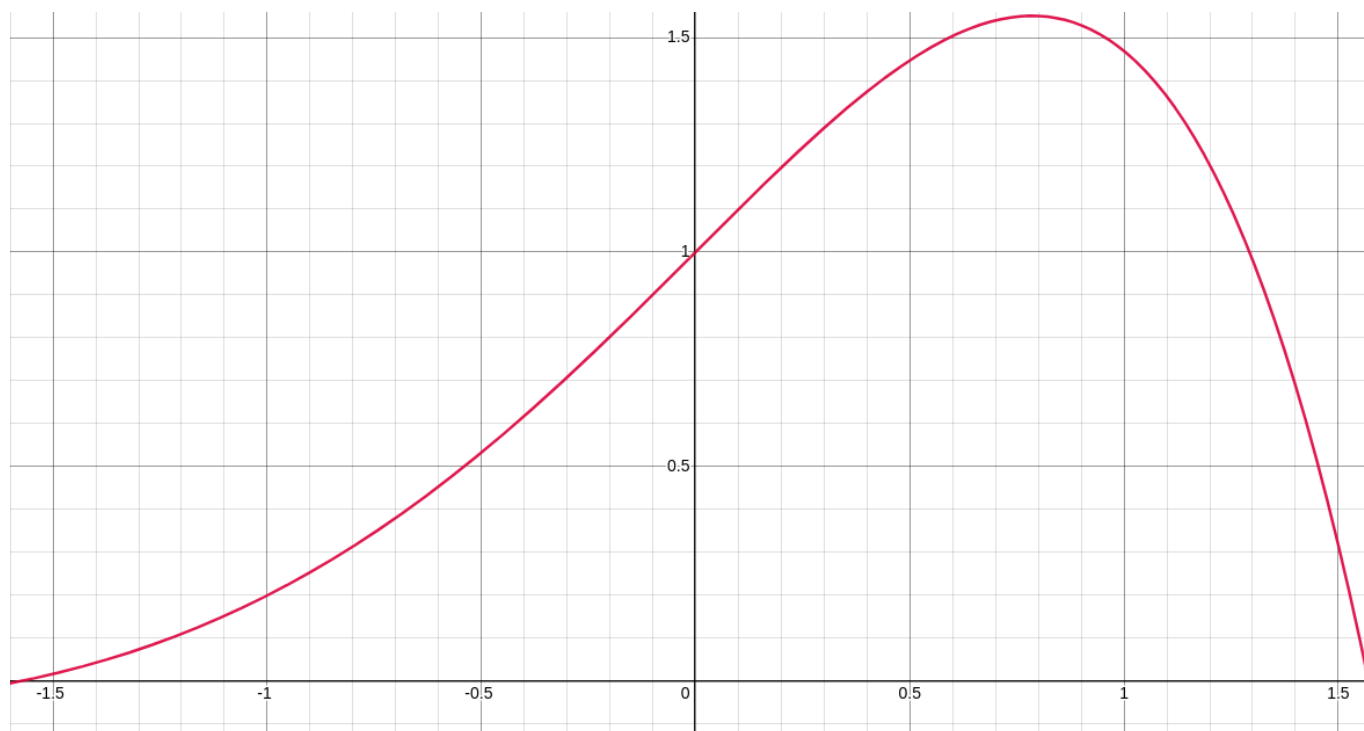
All these commands are tested on Ubuntu Version 20.04.3 LTS (Focal Fossa)

Q2

- |— Q2a.py
- |— Q2b.py
- |— Q2.pdf

$e^x \cos x$  in the range  $[-\pi/2, \pi/2]$

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DEFINITE INTEGRAL:

$$\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} f(x) dx =$$

$$\frac{e^{\frac{\pi}{2}}}{2} + \frac{e^{-\frac{\pi}{2}}}{2}$$

**Simplify/rewrite:**

$$\frac{e^{-\frac{\pi}{2}} (e^{\pi} + 1)}{2}$$

**Approximation:**

2.509178478658057

- Q2-part-a

Integration value for N=100000: 2.50909926803192

- Q2-part-b

