Compte rendu Maths tp6 Sami Hadjeb

1)

import numpy

def f(x):

return (3\*x\*x\*x) + (2\*x) - 1

def g(x):

return numpy.cos(1/x)

def precision(a, b, p):

n = 1

while ((b-a)/n > p):

n = n + 1

return n

def integrale(f, a, b, n):

somme = numpy.sum(f(numpy.arange(a, b, (b-a)/n)))

valintegrale = somme \* (b-a)/n

return valintegrale

print (integrale(f, 0, 10, precision(0, 10, 0.001)))

print (integrale(g, -1, 1, 1))

2)

import numpy

import math

def f(x):

return x \* numpy.sin(x\*x)

def integrale\_trapeze(f, a, b, n):

#somme = numpy.sum(f(numpy.arange(a, b, (b-a)/n)))

somme = numpy.sum(f(x[1, -1]) + ((f(a)+f(b))/2)

valintegrale = somme \* (b-a)/(2\*n)

return valintegrale

print (integrale\_trapeze(f, 0, math.sqrt(math.pi), 30))