

oct_12_coding_prob

October 15, 2023

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[ ]: from scipy.integrate import quad
import numpy as np

def f1(x):
    return 2*x**2

x1 = 0
x2 = 2

f1_integral_value, f1_error_estimate = quad(f1, x1, x2)

print(f"A is approximately {f1_integral_value:.6f}")

def f2(x):
    return 2*x**3

f2_integral_value, f2_error_estimate = quad(f2, x1, x2)

a = f2_integral_value/f1_integral_value

print(f"a is approximately {a:.6f}")

def f3(y):
    return (2-np.sqrt(y/2))*y

y1 = 0
y2 = 8

f3_integral_value, f3_error_estimate = quad(f3, y1, y2)

b = (f3_integral_value)/f1_integral_value

print(f"b is approximately {b:.6f}")
```

A is approximately 5.333333

a is approximately 1.500000

b is approximately 2.400000