SYMBOLIC PROGRAMMING

Question 1

i)

from sympy import \*

N(sqrt(2),100)

ii)

from sympy import \*

a=sym.Rational(1,2)

b=sym.Rational(1,3)

sym.simplify(a+b)

iii)

from sympy import \*

import sympy as sym

x=sym.Symbol('x')

y=sym.Symbol('y')

sym.expand((x+y) \*\* 6)

iv)

# import sympy

from sympy import \*

x = symbols('x')

expr = (sin (x)/(cos(x)))

smpl = trigsimp(expr)

print(format(smpl))

v)

import sympy

from sympy import \*

x,n = symbols('x n')

expr = sin(x)-x\*x\*\*3\*n

smpl = trigsimp(expr)

print(" {}".format(smpl))

Question 3

a-

import sympy

from sympy import \*

a = symbols('a')

x = integrate('a\*\*2',a)

y = integrate(x,a)

print("First integration: "+ str(x))

print("Second integration: "+ str(y))

b-

from sympy import \*

x=Symbol('x')

y=Symbol('y')

2\*x+y\*\*2

#print(z)

c-

from sympy import \*

a=Rational(1,10)

b=Rational(1,5)

a + b

d-

from sympy import \*

x=Symbol('x')

a=diff(sin(x),x)

print("Differentiation of sin(x): "+ str(a))



