

Write a MATLAB program to calculate and print the following integral:

$$I = \int_4^8 \frac{\sqrt{2x^4 + 3x} \cdot \cos(5x) \cdot \ln\left(\frac{4x^3 + 7x}{x^2 + 1}\right)}{x^2 \sin\left(\frac{3x+1}{2x}\right) \cdot e^{-\frac{5x^3 + 2x}{6x^2 + 2}}} dx$$

The output of this program should look like this:

I=454.36167