Homework 12

December 20, 2024

1.Find an indefinite integral

$$a. \int \sqrt{x} \ln \sqrt{x} \, dx$$

$$b. \int \frac{1}{x^2 - 4x + 9} \, dx$$

$$c. \int xe^x \sin x \, dx$$

$$d. \int \sin^3(x) \, dx$$

2. Find the relationship between I_n and I_{n-2}

$$I_n = \int \sec^n(x) \, dx, \quad n \geq 3$$