

b. $\int (\text{Sen}^2(2x)\text{Cos}(3x)) dx$

$\int \text{sen}(2x) [\text{sen}(2x)\text{cos}(3x)] = \int \text{sen}(2x) \cdot \frac{1}{2} [\text{sen}(x+3x) - \text{sen}(x-3x)]$

$= \int -\frac{1}{2} \text{sen}(2x) \text{sen}(x) + \frac{1}{2} \text{sen}(2x) \text{sen}(3x) dx =$

$= \int -\frac{1}{4} [\text{cos}(x) - \text{cos}(3x)] dx + \frac{1}{2} \int -\frac{1}{2} [\text{cos}(3x) - \text{cos}(7x)] dx$

$= \frac{1}{4} \text{sen}(x) - \frac{1}{4} \text{sen}(3x) - \frac{1}{4} \text{sen}(3x) + \frac{1}{4} \text{sen}(7x) + C_1 \text{ e } C_2$

$= \frac{1}{4} \text{sen}(x) + \frac{1}{2} \text{sen}(7x) - \frac{1}{2} \text{sen}(3x) + C_1 \text{ e } C_2$

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c. $\int \frac{\sqrt{x^2-9}}{x} dx$

$x = 3 \sec \theta$
 $dx = 3 \sec \theta \tan \theta d\theta$
 $\frac{x}{3} = \sec \theta$
 $\cos \theta = \frac{3}{x}$

$\frac{\sqrt{a^2-x^2}}{x}$

$\int \frac{\sqrt{9 \sec^2 \theta - 9}}{3 \sec \theta} \cdot 3 \sec \theta \tan \theta d\theta = \int \frac{\sqrt{9 \tan^2 \theta}}{3 \sec \theta} \tan \theta d\theta$

$\int \frac{\tan^2 \theta d\theta}{\sec \theta} = \int (\sec^2 \theta - 1) \sec \theta d\theta = \int \sec^3 \theta d\theta - \int \sec \theta d\theta$

$\int \sec^3 \theta d\theta - \int \sec \theta d\theta = \ln|\sec \theta + \tan \theta| - \text{sen} \theta + C$

$\ln\left(\frac{x}{3} + \frac{\sqrt{a^2-x^2}}{3}\right) - \frac{a-x^2}{3} + C \text{ e } C_1$

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